



CAREER GUIDANCE—GD/Pomona President C. F. Horne, who is current president of Electronics Industries Association, talks with students attending Career Guidance Center sponsored by Los Angeles County Schools last month. Displays, materials and qualified personnel in many occupational fields were provided to assist young people in choosing career goal.

U.S. ARMY CONTRACT CONTINUES REDEYE

A \$1,242,000 contract for continued development of the Redeye missile system was awarded April 9 by the U.S. Army to General Dynamics/Pomona. The contract is in addition to one for \$937,000 announced March 22.

Redeye, a new infrared surface-to-air guided missile system, is being developed for the U.S. Army and Marine Corps by General Dynamics/Pomona. The shoulder-fired Redeye will enable ground troops to retaliate against low-flying aircraft.

Redeye's launcher tube houses a composite missile of solid fuel propellant, infrared guidance system and high-explosive warhead. It weighs about 20 pounds and is man-transportable.

Con-Trib Considers \$750 For Santa Fund

General Dynamics/Pomona employees through their Con-Trib-Club have tentatively pledged \$750 to Santa Claus, Inc.

The pledge received first reading at the April 10 meeting of the Con-Trib-Club committee.



DOLLAR SIGN—Members of GD/Pomona's 25th Value Engineering Seminar are shown on final day, March 30. Primary purpose of seminars is to encourage employees to use disciplines of value engineering in daily work.

Paul Jackson Elected PRA Council President

Paul Jackson was elected president of the Pomona Recreation Association Council at General Dynamics/Pomona at a meeting April 1. He succeeds Jack Williams, Rockhounds commissioner, who had served as council president the past two years.

Ralph Bayer, vice president, Merle Taylor, treasurer, and Jackie Daoust, secretary, were all re-elected.

Jackson, commissioner of the PRA Camera Club since 1956, has been active in the Camera Club since 1953.

A native of Hoisington, Kan., Jackson was graduated in 1944 from the University of Kansas with a degree in aeronautical engineering. He received his master's degree in aeronautics from California Institute of Technology

in 1950 and remained at CIT for two years as a research engineer for the school's Hypersonic Wind Tunnel.

Jackson joined GD/Pomona in 1952 and is presently group engineer in the aerodynamics section.

Bayer is commissioner of the Coin Club and plays in the Highlander pipe band. He is also active in the Stamp Club.

Born in Canon City, Colo., he attended Ryan School of Aeronautics, San Diego. He joined General Dynamics in 1941 and is now a senior test engineer.

Taylor will be serving his third term as treasurer of the council. He held the post last year and in 1955-56. A traffic representative, he is also commissioner of PRA facilities.

He was born in Ozark, Ark., attended Chaffey Jr. College and graduated from the College of Advanced Traffic in San Diego.

Mrs. Daoust will continue her duties as secretary of the council for the ninth consecutive year. A member of the employee services staff, she is also commissioner of women's activities.

Born in Superior, Wis., she graduated from high school and business college there. She joined General Dynamics in 1952.

Givens of Test Lab To Get \$150 Award

D. D. Givens, component test laboratory section head, has qualified for the \$150 General Dynamics/Pomona writing award, C. D. Cornell, assistant to the president, has announced.

An article written by Givens entitled "Planning for Delegation" has been accepted for future publication by Supervisory Management, an official publication of the American Management Association.

Methods Engineer Writes on Alloys

J. R. Ewell, manufacturing methods engineer (Dept. 21), is the latest employee to qualify for a \$150 General Dynamics/Pomona writing award, C. D. Cornell, assistant to the president, said last week.

Ewell's article, "How to work super-tough alloys," was published in the April 1 issue of American Machinist magazine.

Messenger to Talk At Radio Convention

G. M. Messenger of General Dynamics/Pomona weapon systems management (Dept. 7) will speak May 19 at the American Radio Relay League, Pacific Division, convention to be held at Fresno, Calif.

Messenger will speak on "Design and performance of circularly polarized antennas."

600 Volunteers Needed in June To Give Blood

The Red Cross bloodmobile will pay its next semi-annual visit to General Dynamics/Pomona June 4 and 6, E. J. Glasson of employee services announced last week.

Solicitation for volunteer donors will begin Friday, May 17, and end May 24, Glasson said. Each employee will receive a sign-up card from his supervisor.

"Responsible participation in this project establishes the only successful means of maintaining a constant supply for the needs of fellow employees," Glasson said. "We can be proud that we are meeting our obligation and contributing our fair share in this community effort."

A minimum of 600 volunteer donors, 300 each day, are needed for the June 4 and 5 bloodmobile visit.

GD/Pomona employees have traditionally been generous to the Red Cross blood program. During the bloodmobile's last visit, Dec. 5 and 6, 1962, a total of 484 pints of blood were contributed. However, this fell short of the 660-pint goal when more than 100 who signed up were not able to give blood due to colds or other medical reasons.

Employees have donated a total of more than 9,000 pints since the unit first visited the plant in June, 1953.

All blood donated during the visit will be credited to General Dynamics/Pomona's account at the blood bank, Glasson reminded. Employees may withdraw as much as needed, either for themselves or members of their immediate families, by making arrangements with employee services, Room 110, Bldg. 1.

New Liquid Carbonic President Appointed

Appointment of John A. Edwards as president of Liquid Carbonic Division of General Dynamics Corporation was announced last week by Roger Lewis, president.

Edwards, a veteran of 23 years in the compressed gas industry, succeeds John F. Thurston, who has left the company. Edwards was formerly executive vice president. Division headquarters are in Chicago.

At the same time, Lewis announced appointment of Laurence F. Davaney as vice president-United States operations of Liquid Carbonic.

PRA Dancers to Win Door Prizes April 27

GD/Pomona Recreation Association will hold an April dance, Saturday night, April 27, at Rainbow Gardens, 105 E. Monterey, Pomona.

Johnny Catron and his popular orchestra will furnish music for dancing from 9:30 p.m. to 1:30 a.m. Valuable door prizes will be awarded during the evening.

"It is the first PRA dance in more than a year," Chet Wheelless, special activities commissioner, said. "If this dance is well attended, more will be planned."

Tickets, costing \$1 per person, may be obtained at employee services in Bldg. 1, engineering personnel office in Bldg. 4, or from any PRA commissioner.

Club to Stage Spring Dance Next Month

General Dynamics/Pomona Management Club's annual spring dance is scheduled for Saturday evening, May 11, at Rainbow Gardens, 150 E. Monterey, Pomona.

Social hour will be from 7 to 8 p.m., followed by dinner from 8 to 9 p.m. Music for dancing will be provided by Lou Dokken and his orchestra from 9 p.m. to 1 a.m.

Members will make ticket reservations by the usual procedure and a charge of \$2.50 must be paid in advance for the ladies.

Invitations for the dance are being mailed to homes of members informing wives of door prizes to be awarded at 11 p.m.

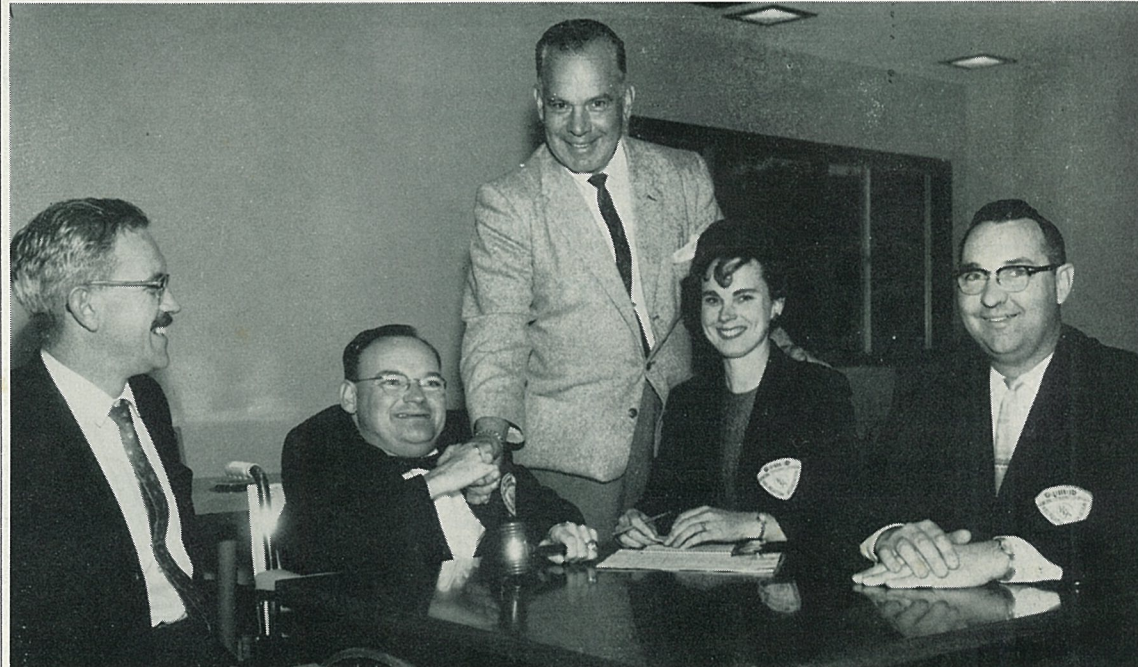
First prize is a mink stole. Second prize will be a free weekend trip to Las Vegas. Third and fourth prizes are quarters of choice beef, cut and wrapped.

Dale Connor is general chairman. Quality control department is sponsor.

Frick Now GD/Convair Vp For Engineering

Charles W. Frick, after more than a year as National Aeronautics and Space Administration's manager of Project Apollo, is returning to General Dynamics/Convair as vice president-engineering, effective May 1.

Frick first joined Convair as chief of applied research in February, 1956, leaving to take the NASA position.



PRA OFFICERS—H. S. Naish, chief of employee services and safety, congratulates Paul Jackson following election April 1 as president of PRA Council. Other officers, from left: Ralph Bayer, vice president; Jackie Daoust, secretary; Merle Taylor, treasurer.

MUSICAL WRITTEN BY SR. ENGINEER

Harvey Dershin, senior research engineer of the General Dynamics/Pomona physics group, enjoys two types of writing—technical papers and music.

An original musical show, with music by Dershin, "Love Is a Cake" will be presented by Temple Beth Israel, 3033 N. San Antonio, Pomona, Saturday night and Sunday afternoon and night (April 20 and 21).

Dershin played in a dance band and gave private music lessons while in college. He started writing music about two years ago.

GD/Pomona Daughter Wins Essay Contest

Lynne Haslam, daughter of Margaret Ann Haslam (Dept. 6), has won an essay contest sponsored in all Pomona elementary schools by the American Legion. Her essay "Pledge of Allegiance and Me," will now be entered in district competition.

Lynne, a fifth grade student at Westmont Elementary School, is soloist in school's glee club, a Girl Scout, sings in First Christian Church junior choir and plays the violin.

Log Book Entries

Awards

POMONA

Employee Suggestion awards at GD/Pomona totaled \$497 for the period ending March 22.

Dept. 11, Contracts: S. Kinsey, \$10.
Dept. 14, Administrative Systems Analysis: D. Lovelady and H. Morgan, \$10 each (joint award).

Dept. 22, Manufacturing Control: E. L. Grady, \$10; B. B. Ransom, \$10.
Dept. 25, Plant Engineering: H. A. Edmark, \$11; P. Hoebel and R. W. Phares, \$73.50 each (joint award); M. Oliveti, \$121 (additional award).

Dept. 27, Quality Control: E. Dziel, \$10; E. R. Gramm, \$17.
Dept. 51, Machine Shop: H. H. Dick, \$10; N. E. Glueckert, \$10; C. Gragg, \$10.

Dept. 61, Sub-Assembly: J. A. LeFevre, \$10.
Dept. 63, Electrical Assembly: G. Bekich, \$30 (two awards); B. J. Borregard, \$10; E. M. Hanson, \$21.

Dept. 73, Final Assembly and Test: L. H. Bolduc, \$10; E. C. Juliano, \$10; F. Shaffer, \$10.

Cost Improvement Proposals for the same period were:

Dept. 24, Tool Engineering: H. A. Holley.

Service Emblems

POMONA

Service emblems due during the period April 16 through April 30.

Twenty-year: Dept. 6, E. H. Good.
Ten-year: Dept. 3-1, C. E. Cross, H. V. Ferree; Dept. 4-4, Roscoe Perkins; Dept. 6, J. J. Ehrlich, A. E. Flanders, A. J. Grik, James Gullio, S. M. Narzisi; Dept. 13-3, W. B. Moeckel; Dept. 22, J. O. Bailey, P. L. Filiger, P. H. Matter; Dept. 25-2, G. R. Brubaker, C. E. Holz, P. G. Johnston, R. L. McKnight, G. W. Padgett, H. W. Stephens, D. D. Wright; Dept. 27-1, S. D. Wheeler; Dept. 31, F. C. McMahon; Dept. 51, R. A. Markwald; Dept. 53, Jessamine J. Thomas.

Five-year: Dept. 6, E. H. Epperson Jr., S. E. Kanyusik; Dept. 21-3, H. B. Thoeni; Dept. 22, W. N. McGray, J. R. Ulloa; Dept. 27-3, M. D. Domico, Joan W. Howard; Dept. 42, N. J. Carmody; Dept. 63, Gloria M. Fraijo.

DAINGERFIELD

Service emblems due during the month of April.

Fifteen-year: Dept. 2, Madeline Hoff, E. T. Hooton, R. L. Turner Jr.; Dept. 3-4, S. Brooks, R. T. Day.

Ten-year: Dept. 3-3, Lillian S. Parker.

Five-year: Dept. 2, K. R. Taft.

Promotions

POMONA

Promotions to or within supervision effective March 25.

Dept. 6, Engineering: To group engineer, W. S. Boronow, J. J. Casson, O. D. Winders. To technical chief, N. J. Hammond.

Dept. 11, Contracts: To chief of supply systems support, F. M. Shulze. To supply systems support supervisor, M. P. Fisher, L. C. Rich. To contract support stockroom asst. supervisor, T. K. Miller.

Dept. 25, Plant Engineering: To plant engineering supervisor, J. B. Gosma.

General Dynamics NEWS

Published by General Dynamics Corporation, One Rockefeller Plaza, New York 20, N. Y.; with editorial headquarters at San Diego 12, Calif., P.O. Box 1950, telephone 296-6611, ext. 1071, Logan Jenkins, editor-in-chief.

Astronautics Editorial Offices, Bldg. 8, GD/Astronautics, Mail Zone 130-01, P.O. Box 1128, San Diego, 12, Calif. Telephone 277-8900, ext. 3322. Staff: Bryan Weickersheimer, editor; Willard Harwood.

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Fort Worth Editorial Offices, Col. 72, Adm. Bldg., GD/Fort Worth, Mail Zone 0-50, P.O. Box 748, Fort Worth 1, Texas. Telephone PERshing 2-4811, ext. 2961. Staff: Dave Lewis, editor; Mary Beck.

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Affiliated editions of General Dynamics NEWS are published in Rochester, N. Y., covering GD/Convair and Stromberg-Carlson, editorial offices, 100 Carlson Road, Hubbard 2-2200, ext. 2555, Gordon Morison, editor; and at Groton, Conn., covering GD/Electric Boat, editorial offices at Groton, Hilltop 5-4321, ext. 300 and 513, Joseph Tracey, editor.



GREATER ACCURACY—New screen printing machine at GD/Pomona provides .0025-inch tolerances on exacting circuit boards. R. V. Shears, methods engineer of operations planning and manufacturing department, who designed machine, watches as Marilyn Burton (Dept. 53) prints boards.

Newly Designed Print Machine Boosts Circuit Board Accuracy

A new screen printing machine in operation at General Dynamics/Pomona provides plus or minus .0025-inch tolerances on exacting circuit boards. Machine setup time has been cut 75 percent.

The machine was designed by R. V. Shears, methods engineer of the operations planning and manufacturing development department, to meet a need for increasingly greater component printed circuit board accuracy.

"As circuit paths became smaller and spaced closer together in new miniaturized designs, tighter tolerances were necessary to prevent undesirable effects on electrical characteristics of the boards and a new screen printing machine was required," Shears said.

A standard drill press rotary table was used to provide angular rotation and micrometer adjustment of the work table from front to back and left to right. An illuminated translucent work base was made by mounting a standard doughnut shaped fluorescent light tube to the periphery of the rotary table and just below the top surface. A piece of thick glass was frosted and mounted to the top of the milling table.

Berkeley Crewmen Visit GD/Pomona

Forty officers and men of USS Berkeley (DDG-15), new Tartar-armed guided missile destroyer, were recent visitors at General Dynamics/Pomona for briefing on the Tartar program.

The group toured Pomona division to inspect engineering and factory facilities where supersonic Tartar surface-to-air missiles are produced for the U. S. Navy.

USS Berkeley, commissioned Dec. 15 at the Philadelphia Naval Shipyard, was the 38th ship armed with GD/Pomona-built missiles to join the fleet. Destroyers of the DDG-15 class can fire Tartar missiles in rapid succession from a single-arm launcher.

tary table and just below the top surface. A piece of thick glass was frosted and mounted to the top of the milling table.

Most of the screen printed circuit boards at GD/Pomona begin with a sheet 9 inches by 12 inches using two corner locating holes. In order to print both sides, it was necessary to locate four dowel pins in the glass.

Adjustable stops are provided for front corners of the screen frame. Vertical adjustment is made by rotating large head screw stops. Accidental side movement of the screen frame is prevented by sliding the entire stop assembly left or right to accommodate the screen frame width. A simple stop to hold the screen in open position was made by attaching a piece of edge-notched strap iron to a commercially available screen carriage.

A work bench top was rebuilt to provide a recessed section in which to place the assembled rotary table, light and glass top. By locating the unit below the work bench top, the glass work base is made level with the bench top for easier circuit board loading and unloading.

Operation of the new screen printing machine not only provides tighter tolerances and reduction in setup time, but the number of rejects has dropped and new operators require less training time. Operators can make final alignment of the work by placing a negative over the lighted work table and moving the table unit until the pattern on the negative matches that on the screen.

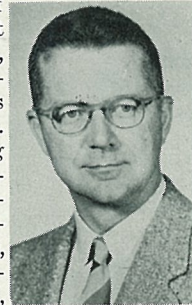


COST CONSCIOUS—Mike Oliveti, electrician (Dept. 25) received \$136 Employee Suggestion award for idea on conservation of transformers used with soldering irons. Oliveti suggested removal of unnecessary foot switches and removable connectors to keep transformers from overheating.

Perrine Will Serve as Chairman Of Military Electronics Meeting

Charles D. Perrine Jr., General Dynamics executive vice president, will be chairman of the 1964 National Winter Convention on Military Electronics at the Ambassador Hotel in Los Angeles, Feb. 5, 6 and 7, it was announced last week.

Now in its fourth year, the annual event already enjoys recognition of the Department of Defense, NASA, and military agencies, as well as industry. High-ranking Pentagon officials, Gen. Bernard A. Schriever, Commander, Air Force Systems Command, and Major Gen. Stuart S. Hoff, Commander, Army Electronic Command, were featured speakers at the 1963 meeting.



C. D. Perrine

Perrine, a graduate of California Institute of Technology in 1933 with a BS degree in experimental physics, first joined General Dynamics Corporation in 1950 at San Diego as staff engineer in the electronic guidance section of the Convair engineering department. He became assistant chief engineer for electronics and missiles at San Diego in early 1951. His work in this position

Soldering Idea Earns \$136 ES

Mike Oliveti, electrician (Dept. 25), has used job know-how to win an Employee Suggestion award of \$136.

Oliveti's job includes repair of soldering irons. He noted that units, which include transformers, foot switches and removable soldering iron connections, were returning to his repair bench too quickly and too often. Investigation showed that foot switches and removable connectors were creating built-in resistance which caused transformers to overheat.

Oliveti suggested that the resistance be eliminated by removal of unnecessary foot switches and by connecting soldering irons directly to transformers.

Annual savings from the suggestion were estimated at \$1,355.50.

"All hourly employees are in a position to earn awards by submitting Employee Suggestions of this type," F. J. Fuller of the Employee Suggestion program said. "Each employee knows more about details of his own job than anybody else. An idea which eliminates unneeded steps, combines steps, changes to a better way, or improves existing ways may be submitted. The idea will qualify for an award if it pays its own way, saves manhours, saves equipment or provides greater safety."

included airborne search radars, hyperprecision radar tracking systems, Atlas missile guidance studies and general airborne electronics.

He transferred to General Dynamics/Pomona in 1952 and served as assistant division manager—engineering until 1961 when he was named vice president—research and engineering. He was appointed executive vice president early in 1963.

Before joining General Dynamics, Perrine was manager of the electronics department at Fairchild Engine and Airplane Corporation's Guided Missile Division at Farmingdale, N. Y., where the anti-aircraft Lark missile was developed. The Lark was the first surface-to-air missile to demonstrate radar homing guidance against aircraft targets. From 1937 to 1945 he was associated with Hughes Aircraft Company as manager of Radio Division. He designed the radio transmitter used by Howard Hughes in the 1938 round-the-world record flight and started the Falcon missile project for Hughes late in 1944.

He is a member of Sigma Xi, honorary scientific fraternity, and Tau Beta Pi, engineering honorary fraternity. He is also a member of the Institute of Electrical and Electronics Engineers, American Ordnance Association, Navy League, Armed Forces Communications and Electronics Association, American Rocket Society and Association of the United States Army.

He has been the author of numerous technical and scientific articles in national radio and electronic magazines. He designed and operated amateur radio station W6CUH from 1927 to 1939.

Strauss New Tartar Ship

The USS Strauss (DDG-16), Tartar-armed guided missile destroyer, will be commissioned in traditional ceremonies April 20 at Philadelphia Naval Shipyard.

The ship is the fourth guided missile destroyer of the new Berkeley class to be commissioned and the 19th Tartar-armed warship to join the nation's growing fleet of guided missile ships. A sister ship, USS Tattnall (DDG-19), was commissioned last Saturday (April 13) at Charleston.

T. D. Brown, manager of Navy contracts administration, will represent General Dynamics/Pomona at the commissioning and, on behalf of the company, will present a set of ceremonial stanchions to the ship.

USS Strauss, built at the New York Shipbuilding Corporation's plant at Camden, N. J., is named in honor of Adm. Joseph Strauss, deceased, a specialist in Naval ordnance.

Admiral Strauss, while serving in Bureau of Ordnance, 1893-95 designed the first heavy gun mount to be operated by electricity—a system which soon became standard in the Navy. He later designed the first spring recoil gun mount in the Navy and the first disappearing mount for deck guns on submarines. Admiral Strauss developed the 12-inch gun which became forerunner of the big gun main batteries and was a pioneer in the field of smokeless powder development.

As Commander Mine Force, Atlantic Fleet, he was responsible for laying the North Sea mine barrage, one of the major operations of World War I, which contributed to failure of German submarine campaign and breakdown in morale of German people. He was awarded the Distinguished Service Medal for this achievement.

GLORIA SEEFUS BEAUTY WINNER

Gloria Seefus (Dept. 6, GD/Pomona), competing against ten other nominees, last month won a "Miss Zody's of West Covina" beauty contest and will compete soon for a state title.

Divisional Cooperation On Problems Urged

General Dynamics divisions must assist one another in the solution of potential or real problems in order to achieve a high degree of product quality.

So said J. Y. McClure, General Dynamics director of reliability and quality control, at a GD Panel on Reliability and Quality Control meeting at GD/Forth Worth April 1 through 3.

"Many of these problems are mutual," McClure said. "Keep in mind that our company has consultants and experts in many fields of endeavor.

"These experts are available if we simply ask for their services. Please do not let pride or autonomy stand in the way of seeking division or corporation assistance."

McClure's keynote speech was one of several general presentations at the meeting, which included:

"Reliability and Quality Assurance," T. Johnstone, Vickers Corp., Detroit; "NASA Reliability and Quality Assurance," J. T. Koppenhaver, director office of reliability and quality assurance, Hqs. NASA; "F-111 Weapon System," J. T. Cosby, GD/FW vice president and F-111 program director; "Corporate Procurement of High Quality Parts," W. G. Evans, corporate director of materiel; "Air Force Organization and Contractor Relations," C. C. Hargrove, deputy chief Air Force quality control, GD/FW.

"F-111 Maintainability," E. D. Mathis, manager of support requirements, GD/FW; "Quality Control of Technical Manuals," W. E. Magnuson, GD/Astronautics; "Industry Participation in Government Committees," E. S.

Winlund, GD/Astronautics.

"Product and Reliability Control at GD/Electro Dynamics," N. T. Bonner, GD/ED; "Product Data Processing Center," E. C. Cauthen, GD/FW process control supervisor.

E. R. Weiher, GD/FW manager of quality control, hosted the event; Frank W. Davis, GD/FW president, made opening remarks.

W. J. Martin, GD/Convair director of reliability, was named chairman of the quality control panel, replacing E. J. Behney, resigned.

Others attending the meeting were: John Holland, director quality control, GD/Electronics-Rochester; R. J. Cary, manager-engineering services, GD/Electronics-San Diego; H. L. McKeown, director quality control, Canadair-Montreal; C. W. Holden, manager, quality control and inspection, Stromberg-Carlson; T. Dunn, assistant general manager-reliability, Electric Boat; O. R. Goode, quality control manager, Electric Boat.

N. H. Simpson, director quality assurance, F-111, GD/FW; G. G. Sidaway, reliability engineer, Canadair-Montreal; J. C. Bear, chief of weapon systems reliability, GD/Pomona; J. W. Snodgrass, engineering manager-reliability, GD/Electronics-Rochester.

N. T. Bonner, manager of quality control, Electro Dynamic; K. Sinclair, manager quality assurance, GD/Electronics-San Diego; E. A. Cartwright, chief B-58 quality assurance, GD/FW; E. Gremley, division manager quality assurance, Vickers Inc.-Aerospace Division-Detroit.



VALUE CONCLAVE—General Dynamics men at corporate Value Control Committee meeting in Chicago, Ill., March 21-22 to discuss effectiveness of GD programs are (from left) W. G. Evans, GD director of materiel; W. B. Roberson and John W. Shaffer, both GD/Fort Worth; John Hill, GD/Electronics-Rochester; E. D. Heller, GD/Astro; M. M. Reeder, GD/Electronics-San Diego; John Lindsey, Liquid Carbonic; Frank Kohrs, Electric Boat; A. S. Ross, GD/E-Rochester; W. R. Feichtinger of BUWEPS, main speaker; E. H. Conklin, GD/Pomona; Ray Golemb, Stromberg-Carlson; H. P. Williams, GD/Convair; R. J. Nash, GD/E-Rochester. Karl Mikelsons of Canadair was unable to attend. In shot at right E. W. Feddersen, GD director of manufacturing engineering and chairman, greets Feichtinger.



Booklet 'Sells' Value Control

GD/Fort Worth is "selling" value engineering throughout the U. S. through a 38-page booklet, "Value Control—the Practical Management Series."

Authored by Bill Nutt of educational services, the handy, easy-to-read effort is based on findings of some 20 value engineering seminars at GD/Fort Worth.

The illustrated booklet defines the philosophy of value control, lists step-by-step procedures for activating a value engineering plan, and presents case histories.

An estimated 8,000 to 10,000 of the booklets have been issued to a wide range of organizations—industry, universities, governmental agencies, branches of the Army, Navy, Marines and Air Force.

"We're pleased to pass along our value control experience to anyone who's interested," said Nutt, "since this technique has become a way of life not only with us, but with all our subsystems vendors."

Frank W. Davis, GD/FW president, wrote in the booklet's foreword: "Our acceptance and routine employment of Value Control . . . will largely determine the direction our future takes. In the future, only the low-cost producers can hope to have ever-increasing business on the books . . . we intend to be a low cost producer."

Copies of the booklet are available upon request to: Educational Services Section, General Dynamics/Fort Worth.

Customers Leaning Toward Incentive-Type Contracts

General Dynamics members of the corporation's Value Control Committee, meeting in Chicago, Ill., last month, learned a new word—"incentivize."

W. G. Evans, General Dynamics director of materiel, told value control delegates from nine General Dynamics divisions that they will be hearing the coined word more and more as it is used to describe incentive-type military and government contracts.

He pointed out that the Department of Defense is placing increasing emphasis on "incentivizing" bidders for governmental work by selecting only those companies who toe the "value vs. cost" mark, as he discussed in detail the inclusion of Part 17 (Value Engineering) in Armed Services Procurement Regulation (ASPR).

W. R. Feichtinger, chief of value engineering for the Navy Bureau of Weapons, Washington, D. C., as main speaker at the March 21-22 session, played the spotlight on the prime position value engineering holds in DOD's present and future planning.

He quoted from a letter written by Secretary of Defense McNamara to President Kennedy which spelled out proposed reduction of the Department of Defense budget by \$3 billion over the next three years—primarily through application of value engineering principles within contracting companies.

E. W. Feddersen, GD director of manufacturing engineering and

chairman of the all-Dynamics committee, called members' attention to necessity for development of a sincere and realistic value engineering/value control consciousness within all GD divisions to meet and surpass value engineering requirements of the ASPR.

All of the 14 delegates who spoke during the two-day conference discussed various methods of attaining more efficient and effective programs within the company as a whole.

Only other speaker from without the corporation was W. G. McMurtry, formerly of GD/Fort Worth, who explained the value engineering organization which he has installed at Motorola, Inc., Military Electronics Division, Phoenix, Ariz., along similar lines as GD programs.

Feddersen appointed three subcommittees to expedite standardization of value control programs in all GD divisions and subsidiaries. E. H. Conklin of GD/Pomona will chair the subcommittee studying current GD value control organizations and framing recommendations for the ideal program to meet ASPR value engineering requirements.

E. D. Heller of GD/Astronautics is head of a group formulating a charter for the GD Value Control Committee.

Feddersen, himself, has assumed top responsibility of the third subcommittee which will search for means of calling attention to Dynamics' VE capability.



IN SESSION—Representatives from most divisions attended Dynamics Panel on Reliability and Quality Control April 1-3 at GD/FW.

General Dynamics Cited for Efforts In Equal Employment Opportunities

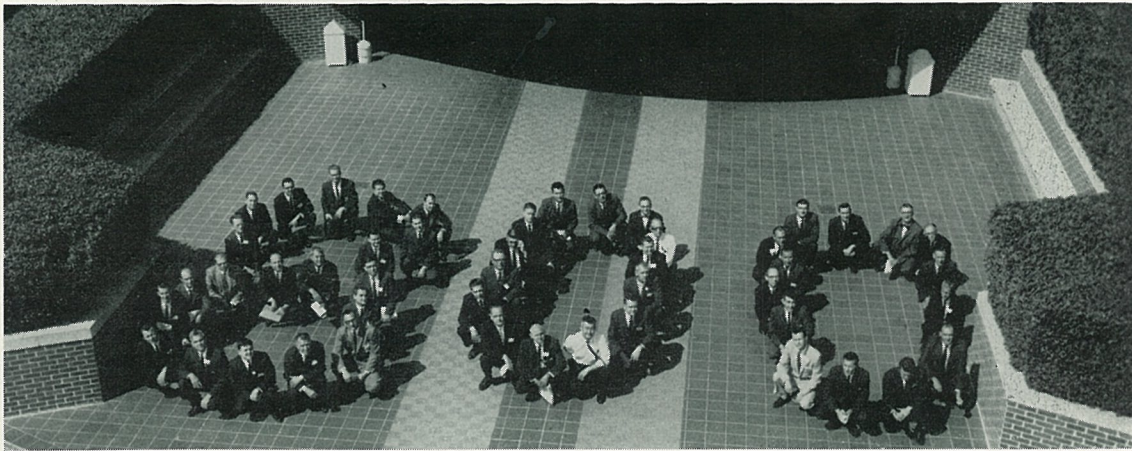
General Dynamics Corporation was one of 45 firms and organizations honored recently with Certificates of Commendation for equal opportunity employment practices.

The award was made by the Chicago Committee of One Hundred, a civic agency dedicated to social and economic progress.

Presentation was made during ceremonies at the Committee's

22nd annual dinner in Chicago early this month.

In a citation accepted by J. L. Budros, corporate director of compensation and personnel development, General Dynamics was praised for "observing the fundamental rights of equality of opportunity in employment, without regard to color, creed, sex or national origin."



COST ENGINEERS—Graduates of 20th GD/Fort Worth value engineering seminar strike "800 pose" depicting number receiving VE sheepskins since program's inception.

Graduates of Value Engineering Seminars at GD/FW Exceed 800

Over 800 persons have graduated from GD/Fort Worth value engineering seminars.

The milestone was reached at Seminar No. 20, held at GD/Fort Worth March 18-29 and attended by a record-breaking 46 people. Potential savings were reported as "substantial."

"Most of the graduates have been GD/Fort Worth personnel, with a liberal sprinkling of Air Force and vendor individuals," said Rand Creasy, deputy value control coordinator.

Attending seminar No. 20 by invitation were Capt. C. M. Leggett and R. P. Clevenger, Air Force Education With Industry officers on assignment at GD/Fort Worth; G. A. Wiley, W. A. Visage, and C. A. Schulz, Air Force Plant Representative's Office; C. W. Darby, Collins Radio; and Dr. G. G. Miller of TCU.

Also attending as special guests were G. V. Antonowicz, W. Janowski and T. F. Flynn of Grumman Aircraft Engineering Corp.

Dr. Miller is the first college faculty member to attend a GD/Fort Worth seminar.

Eight projects—many of them selected because of their similarity to upcoming F-111 functions—were studied. Projects and team members were:

Leg Guide-Data Stg.—W. E. Rater, 160; C. R. Crippliver, 260; D. O. Burch, 31; E. G. Ward, 287-3; Capt. C. M. Leggett, AF; and C. W. Darby, Collins Radio.

Flange and Tee—R. G. Jones, 160; H. D. Clark, 260; E. E. Creamer, 24-9; A. L. Hayter, 7-8; R. H. Allmond, 22.

Frame Assembly—M. Rowell, 61; L. C. Strange, 260; A. E. Unruh, 23-1; H. Ellis, 4-2; C. E. Spradley, 27; Dr. G. G. Miller, TCU.

Guard—C. W. Hill, 260; T. O. Finn, 062; C. C. Tittle, 24-1; W. H. Johnston, 16; Capt. R. P. Clevenger, AF; R. M. Crawford, 180-2.

Seal—E. C. Allison, 160; J. J. Harling, 260; C. A. Springer, 24-1; G. A. Babcock, 87-2; C. A. Schulz, AFPR; E. D. Weimer, 25.

Tube—W. E. Gray, 260; A. Noetzel, 160; J. A. Spitzenberger, 24-1; R. E. Fitch, 189; W. A. Visage, AFPR; V. V. Gilley, 24-8.

MTU Cover—C. B. Cox, 267-1; J. G. Dameron, 165; W. D. Campbell, 24-1; D. R. Grimes, 4-2; E. J. Bielefeld, 28.

MTU Base—E. W. Foster, 065; L. MacMurdo, 160; J. E. Massie, 24-1; L. N. Slayton, 12; L. T. Clark, 29; G. A. Wiley, AFPR.



"Now, don't you worry! If things on the job don't go right, you've always got me to come home to . . ."



GOOD OLD DAYS—K. R. Jackman, left, shows copy of 15th anniversary issue of Consolidated Aircraft Corp. magazine to K. G. Beyer, chief of engineering personnel and training. Jackman, chief of engineering test laboratories at GD/Pomona, has longest continuous service record of any Pomona Division employee. He joined Consolidated (now GD/Convair) in 1931.

Oral History

Early Aircraft Tests Described In Taped Interview For Library

Memories of pioneers in the aircraft industry and early testing procedures were recalled by K. R. Jackman, chief of engineering test laboratories at GD/Pomona, in a taped interview given recently at Claremont Graduate School, Claremont.

A typed manuscript of Jackman's interview with Dr. John B. Rae, professor of history at Harvey Mudd College, will be placed in the Oral History Collection of Honnold Library (the common library of the five Claremont Colleges).

Interviews provide information for scholars and researchers in many fields. The very informality of the interviews gives historians an "inside view" of the subject or era.

The interview was arranged by K. G. Beyer, chief of engineering personnel and training at GD/Pomona. Beyer is also mayor of the city of Claremont, and before joining General Dynamics was assistant to the president of Pomona College, the oldest of the Claremont Colleges.

Jackman has spent 34 years in the aircraft industry and has the longest continuous service record—almost 32 years—of any Pomona Division employee. He joined Consolidated Aircraft Corporation in Buffalo, N.Y. in July, 1931, moved to San Diego with the company in 1935, and transferred to Pomona in February, 1952.

Born in Sadiya, Assam, in northeast India, the son of missionary parents, Jackman attended British schools in Darjeeling, India, until he was about 12 years old. Coming to the United States he completed high school and enrolled at New York University where he obtained a B.S. degree in mechanical engineering in 1929.

Influenced by two faculty members—Alexander Klemen and Lt. Fred Hopkins (later an Air Force general)—Jackman continued his studies and obtained a second degree in aeronautical engineering.

Twenty-four years later Jackman was honored by his alma mater along with 99 other engineering graduates of NYU during the Engineering College's Centennial Celebration.

From 1929 to 1931 Jackman did stress analysis for V. E. Clark Aircraft Corp. and Hall Aluminum Aircraft in Buffalo, N.Y. He then joined Consolidated Aircraft.

When Jackman arrived in San Diego in September, 1935, the first building was still under construction on Lindbergh Field. Until its completion a month later engineers and draftsmen worked with canvas to protect them from sea breezes.

One "first" for Consolidated recalled by Jackman was the strengthening of aluminum for aircraft structures by "pre-stretching." A flying boat made almost entirely from pre-stressed material was highly successful

and proved the value of pre-stretched stiffeners in building lighter aircraft.

Another test laboratory effort recalled was in development of fiber glass seats for commercial transports and extensive work in acoustics aimed at reducing cabin noises.

Among the early employees of Consolidated recalled by Jackman were: the late Roy Austin Miller, chief of structures, his boss for 14 years; I. M. Laddon, chief engineer, who flew on the initial flight of every plane he designed except one single-seater pursuit ship; Bert Bowling, foreman of final assembly department; Don DeMarce, final assembly inspector; the late Herb Ezard, English-trained foreman of boat department; Henry Mandolf, Austrian-born project engineer who was responsible for the design of all retractable wing-tip floats on "PBY" type boats; and "Bernie" Sheahan, who started as a designer in 1927, became chief draftsman in 1938 and later was chief engineer at the San Diego plant.

Summer Keg Loops Still Taking Entries

Summer bowling leagues at GD/Pomona will get into action on May 6 and continue through the last week of August, according to Commissioner Tex Munson.

All leagues will bowl at the Bowlum and there are still a few openings left in the two Wednesday night leagues.

Munson reported 14 openings in the 6:30 p.m. men's handicap league on Wednesday night. The league has 16 teams.

Three team openings exist in the 16-team "mixed five" league also bowling at 6:30 Wednesdays.

For further information call any bowling commissioner—Kevin Elliott, ext. 4209; C. Don Blue, ext. 8133; C. H. Reed, ext. 5262; or Munson, ext. 7242/6128.

Ontario Ice Bowl Offers Low Rate

Reduced rates for GD/Pomona employees and members of their families are being offered at Ontario Ice Bowl in an effort to attract more skaters to weekly sessions from 6 to 7:30 p.m.

Rates will be \$1 for adults and 25c for children, with no skate rental charge. (Guests, however, will be charged the old rates of \$1.35 for adults and 85c for children.) These prices will remain in effect each Wednesday through July 10, according to Commissioners Cecil Vance and Don Wilson. Free instruction—both individual and group—is given every Wednesday from 6:30 to 7:30 p.m. The Ice Bowl is located at 1225 W. Holt Blvd., Ontario.

For further information about this PRA activity call Vance, ext. 7277, or Wilson, ext. 6250.

Ten Teams Entered In Softball League

Ten teams will begin scheduled play in the 1963 Plant Twilight Softball League on April 29, Commissioner Ed Glasson announced following an organizational meeting last week.

Teams and managers are: Aerodynamics, Paul Jackson; Physics, Dick Shook; Dynamics, Dave Gerstenfeld; Flight Analysis, Pete O'Leary; Aeroelasticity, Ken McIntyre; Systems, Bill Milliken; Stress, Bob Hallse; Typhon/Tartar guidance, George Wysup; Test Equipment, Joe Molamphy; Fire Control, Tom Shelton.

The season will be divided into two rounds with winners in each round meeting to decide the league championship.

Archers Shoot At Bakersfield

Several GD/Pomona Archery Club members journeyed to Bakersfield April 6-7 for the 8th annual Bakersfield Pow-Wow Tournament that attracts top archers from all over California.

Plans are being made for members to participate in the 8th annual Fresno Safari to be held April 27-28. This tournament is also rated high in competition, reports Commissioner Elmer Dahlstrom.

Also on the club's agenda is the annual invitational tournament sponsored by a local club, Valley Bowhunters of LaVerne. Date for the competition is May 5.

Dahlstrom said that the state tournament may be held on the Valley Bowhunters range this year which would give Pomona archers a chance to compete with the best archers from all parts of the state without traveling far from home.

Young bowman Gene Hasenbeck, son of Hal Hasenbeck (Dept. 6), was the winner in his class at the Southern California Tournament held at South Bay Range on March 31.

Stricklands Elected Sq. Dance Leaders

Following their regular custom of electing couples to each club office, Convairity Steppers at GD/Pomona chose Harriet and Wally Strickland to head club affairs for 1963-64.

Other new officers installed March 29 were: Gladys and Clyde Perry, treasurer; Winnie and Glen Mellem, secretary; Shirley and Jerry Owens, marshal.

Committee chairmen elected were: Arlene and Edgar Smith, special events; Dee and Peggy Vernon, Addy and Gene Roberts, social; Lois and Dale Tarr, decorations; Jackie and Marvin Shores, publicity.

The election was held at the club's Fifth Friday dance which was designated a "hayseed" costume party. Harry Raby and Ray Martin furnished music for the dancing and "Smitty" Smith was caller.

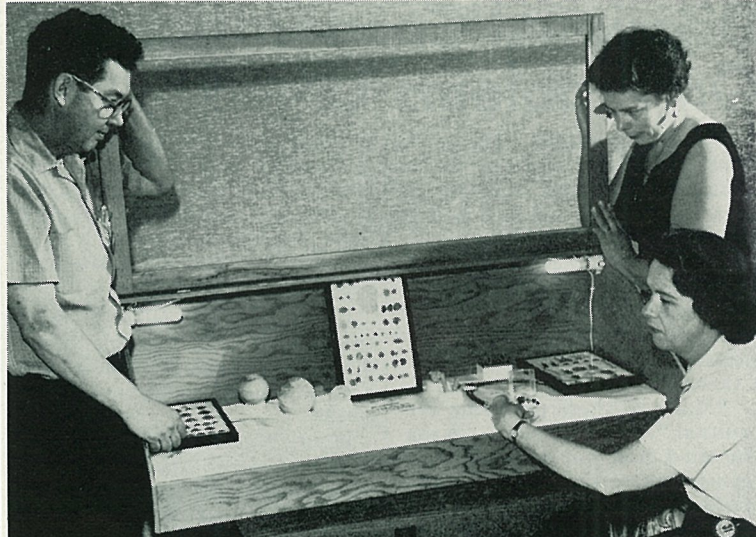
Next regular dance for the Steppers will be held at 8 p.m. this Friday (April 19) in PRA Clubhouse. Commissioner Lloyd Scarborough invites employees who enjoy square dancing to attend this session.

Eight Teams Enter Night Ball League

Eight teams are entered in the 1963 PRA plant night softball league, Commissioner Ed Glasson announced.

League play will begin May 6 with games scheduled on Monday, Tuesday and Wednesday nights. Two rounds will be played followed by play-off for championship.

Teams and managers are: Sustaining, Bill Weaver; Missile Checkout, John Phillips; Computer Lab, Dave G. Clark; Mauler Guidance, John Lezak; Night Hawks, Bill Milliken; Redeye, Roger Kathman; Processing, Ray Coyle; Contracts, Jim Wassman and Paul Steel.



GEM SHOW—Sixth annual PRA Rockhound Gem and Mineral Show in Fine Arts Building at Los Angeles County Fairgrounds April 27 and 28 will include best mineral and lapidary displays from Southern California. From left: Earl Meyer (Dept. 6), Millie Gottier, wife of Commissioner Bob Gottier, and Ora Fine (Dept. 31) prepare one of Rockhound Club's exhibits.

Annual Gem and Mineral Show Has 'Desert Heritage' Theme

Theme of the sixth annual Gem and Mineral Show sponsored by GD/Pomona Rockhounds is "Heritage of the Desert."

The theme was chosen because so many rock and mineral specimens are to be found in the deserts of the Southwest.

"American Indians have long made use of desert rocks and minerals for tools, weapons and jewelry, and today we share this heritage with them," said Bob Gottier, show chairman.

The show will be held in the Fine Arts Building at the Los Angeles County Fair Grounds in Pomona, April 27-28. Hours will be from 10 a.m. to 10 p.m. on Saturday and 10 a.m. to 7 p.m. on Sunday.

All employees and their families are invited to attend and view the mineral collections, lapidary work, jewelry and other special displays arranged by club members. Other rockhound clubs in the area and the San Bernardino County Museum will also exhibit "treasures" found while exploring Southwestern deserts.

First, second and third place ribbons will be awarded in the competitive judging. In addition, a perpetual trophy provided by the Pomona Division will be awarded the rockhound club whose display is considered "Best of Show."

Other PRA groups have been asked to participate, according to Gottier. Members of Archery Club, Ski Club, Coin Club, Stamp Club and Camera Club will arrange displays of their hobbies.

Commercial dealers will show slabs, findings and mineral speci-

mens, cutting material and lapidary equipment. Trailers and campers will also be displayed. Another feature will be a swap shop where collectors may trade rocks.

Admission to the show is free but tickets must be purchased for door prizes. Refreshments will be available at nominal prices.

Rockhounds Attend Monthly Potluck

Regular monthly potluck dinner meeting of GD/Pomona Rockhounds was held April 8.

Couple-of-the-month, Earl Meyers (Dept. 6) and his wife, showed two films, "Nevada and Its Natural Resources" and "Wagons West."

Announcement was made of a new lapidary class which will start in approximately two weeks. Classes will be held on Monday night. For further information call Commissioner Bob Gottier, ext. 4282, or any Rockhounds officer. Regular hours for the lapidary shop are 7 to 10 p.m. on Tuesday, Wednesday and Thursday.

Two club members—N. L. "Chief" Bench (Dept. 31) and Jack Williams (Dept. 6)—will be guests of Randy Wills (Dept. 6) on his radio program "Air Views" this Sunday (April 21). The program will be held at 8 p.m. on station KWOW (1600), Pomona.

'Signs of Our Times' Depicted by Stamps

Slides illustrating "Sports on Stamps" were shown at GD/Pomona Stamp Club meeting last night.

Theme contest for the month was entitled "Signs of Our Times" depicted in five or less stamps, but winners were not known at press time.

Commissioner Jim Simpson invites employees and members of their families who are interested in stamp collecting to attend 7:30 p.m. meetings held the third Friday of every month.

Business portions of meetings are brief, allowing three hours for contest judging, showing of slides, discussions, and buying, selling and trading of stamps.

Call Simpson, ext. 7244, for additional information.

GD/Pomona Calendar Earns Exhibit Award

The Tenth Annual Technical Illustrators' Management Association exhibition will continue through April 21 at the California Museum of Science and Industry, 700 State Drive, Exposition Park, Los Angeles.

Six pieces from General Dynamics/Pomona were displayed.

A second place award was won by the GD/Pomona Capabilities Calendar, designed by D. K. Lillethorup and R. J. Van Paris of publications art (Dept. 6).

Wife at GD/Pomona Art Exhibit Winner

A second prize in the all-media art exhibit sponsored by the Pomona Valley Art Association was won by Mrs. Clara L. Pahl, wife of J. R. Pahl, chief librarian at GD/Pomona.

An oil painting by Dulaine Magnes (Dept. 6) was one of 20 submitted in that category by the host organization. Patti Galloway (Dept. 6) was chairman.



BOWLING REWARDS—Trophies in all sizes and shapes were awarded winners in 11th annual PRA Bowling Tournament. In photo at left, Commissioner Tex Munson presents trophy to Elma Raney, women's high scratch game winner, while H. S. Naish, hands another trophy (for three-game scratch series) to Evelyn Seeger. Jackie Fleming and Frank Leffingwell were mixed doubles winners. Winners of

men's doubles were Bob Shack and Joe Hardesty. Hardesty also won all events. Mixed team winners holding awards are Dianne Noorlander, C. Don Blue, Captain Charles H. Reed and Geneva Hacker. Not shown is Jim Noorlander, husband of Dianne. Men's team winners were Jim Black and Gordon Mitchell, kneeling, and standing 1. to r.: Bob Walkinshaw, Chuck Reed (captain) and Rudy Parzl.

Sports & Recreation

Marcia Bateman, Jack Prosser Lead Bowlers With 610 and 678

Marcia Bateman rolled a 610 series in recent Pomona Recreation Association bowling and Jack Prosser turned in the top series

for men, a 678.

Ken Lake's 627 was highest scratch series and Elmer Fredricks and Chuck Farr tied for high scratch game (221) in same period.

Other PRA gift certificate winners in the period ending April 4 were:

Monday 6:15 p.m. Mixed Handicap League, March 25, Jean Sutherland, 605 handicap series; Bob Walkinshaw, 638 handicap series. April 1, Marcia Bateman, 610 handicap series; Lou English, 643 handicap series.

Tuesday 6:15 p.m. Men's 920 Scratch League, March 26, Kevin Elliott, 589 scratch series; Al Thompson, 217 scratch game. April 2, Ken Lake, 627 scratch series; Elmer Fredricks and Chuck Farr (tied), 221 scratch game.

Thursday 6:15 p.m. Mixed Handicap League, March 28, Hassie Cooper, 594 handicap series; Herb Stowers, 654 handicap series. April 4, Betty Richards, 546 handicap series; Jack Prosser, 678 handicap series.

Thursday 9 p.m. Mixed Handicap Foursome League, March 28, Ann Bessette, 560 handicap series; Harold Kurtz, 643 handicap series. April 4, Joyce Hebl, 554 handicap series; Harold Kurtz, 644 handicap series.

Daingerfield Keglers Sweep Every Event

Bowlers from Daingerfield Division won every event in the annual civic bowling tournament held at Daingerfield, Texas.

Joe Gammill (Dept. 2), won both the singles and all events trophies.

Team event was won by Charlie Walls (Dept. 5), Floyd White (Dept. 3), Vernon Jones (Dept. 2), Gammill, and Joe English (Dept. 2), president of the Daingerfield Recreation Association.

Doubles event was won by Heflin Parris (Dept. 2) and Bowling Commissioner Phil Steger (Dept. 8).

PRA Calendar

(GD/Pomona Recreation Association sponsors 23 activities for employees. For information call PRA office, ext. 208. All meetings listed below held in PRA Clubhouse, unless otherwise noted.)

★ ★ ★
ARCHERY—Shoot 8 a.m. this Saturday (April 20), PRA range near heliport. Instruction offered 10 a.m. to 12 noon on first and third Saturdays of month.

BALLROOM DANCING—Second lesson in new series of ballroom dancing for beginners, 8 p.m. tomorrow night (Thursday).

CAMERA CLUB—Meeting 8 p.m., April 25.

CERAMICS—Instruction offered every Tuesday and Thursday nights from 7 to 10 p.m., Ceramics Workshop, PRA Clubhouse.

CHES CLUB—Open play meeting, 6:30 p.m., April 23 and 30. Instruction given at 6 p.m. every Tuesday.

HIGHLANDERS—Band practice, 7:30 p.m. every Wednesday.

ICE SKATING—Individual and group instruction offered 6:30 p.m., every Wednesday, Ice Bowl, 1225 W. Holt, Ontario.

ROCKHOUNDS—Lapidary workshop open 7 to 10 p.m., every Tuesday, Wednesday and Thursday. Instruction offered.

STAMP CLUB—Meeting 7:30 p.m. this Friday (April 19).

Santa Village Club Cards Are Available

GD/Pomona employees can obtain Santa's Village Fun Club membership cards at employee services, Bldg. 1.

The cards entitle employees and immediate families to special admission and ride privileges at Santa's Village on Highway 18 near Lake Arrowhead.

Women's Golf Attracts 37

Winners of PRA Spring Round-Up Tournament for women golfers at GD/Pomona were Margaret Giles (Dept. 6) and Lillian Sweitzer, wife of Wes Sweitzer (Dept. 4).

There were 37 entrants in the event March 30 at Los Serranos Golf Course, reports Chairman Joan Vough.

Margaret was low net winner and Mrs. Sweitzer had low gross score for the day. Both received \$5 PRA gift certificates.

Other net awards were: Velda Bomar (Dept. 4), \$4; Ruth Womack, wife of Mel Womack (Dept. 22), \$3; Peg Osborne and Ann Clever (both Dept. 6), tied, \$1.50 each.

Gross awards were also given to the following: Dorothy Avery (Dept. 6), Dorothy Frankenberg, wife of C. C. Frankenberg, (Dept. 7), tied, \$3.50 each; Isabel Medlick (Dept. 63), Helen Vaughn (Dept. 2) and Marian Bryan, wife of Dick Bryan (Dept. 6), three-way tie, \$1 each.

LILLIAN SWEITZER ON WINNING TEAM

Mrs. Lillian Sweitzer, wife of Wes Sweitzer (Dept. 4, GD/Pomona), was a member of the team from Whispering Lakes Golf Course, Ontario, that won first place in the "B" team division of Southern California Women's Public Links Tournament April 1.

Twilight Golf Deadline Near

Deadline for registration in PRA Twilight Golf leagues at GD/Pomona is this Friday (April 19).

There are still a few openings in each league (except Tuesday and Thursday at Los Serranos), according to Commissioner Wes Lanier.

Entry fee is \$2 per person, per round, and must be paid at time of registration. League play will start April 29 and consist of two rounds, each lasting 10 weeks.

Handicaps must be established before league play begins but a handicap card is not required, Lanier said.

To register see Jackie Daoust, employee services, room 110, Bldg. 1. Players who do not sign up for the first half may play in the second half if there are any dropouts.

Lanier emphasized that all players who wish to compete in the second half must pay their entry fee by the end of the sixth week of play in the first round. Any team failing to do so may be dropped from the roster and a team from the waiting list put in its place.

GD/Pomona to Enter Slow Pitch League

Two GD/Pomona teams are being formed to play in the Pomona Civic Slow Pitch League. Employees interested in trying out should contact Bill Milliken, ext. 8131, Dave Gerstenfeld, ext. 4230, or Dick Shook, ext. 8327. Teams will practice every Saturday afternoon, 1 to 3 p.m., at PRA diamond.

Deadline Friday for Enrolling In Women's Twilight Golf

Deadline for registration in PRA Women's Twilight Golf Leagues at GD/Pomona is this Friday (April 19).

The Monday night league will play at Lomitas Golf Course beginning April 29. Tuesday night league will play at Los Serranos Golf Course beginning April 30. (The latter course is recommended for low handicap golfers.)

Both leagues are open to Pomona women employees and wives and daughters of employees. No partner is needed as the committee will pair individual

golfers prior to play.

Application and \$2 fee for first half must be sent to Jackie Daoust, employee services, mail zone 3-8.

A program for beginning golfers will also be offered again this year, announced Chairman Joan Vough.

Novices will receive group instruction beginning May 6 at Lomitas Golf Course. League play will follow lessons.

Applications must be received by this Friday (April 19). For further information call ext. 208.

Nearly 100 Go to Gilman Links For Best Ball Tournament

First golf tournament of the year at GD/Pomona was held March 31 at Gilman Springs Golf Club.

A total of 92 golfers teed off in the partners' best ball tourney, reports Commissioner Wes Lanier.

Two teams tied for first place in the net division with a score of 61. Winners were Roger Arbaugh (Dept. 4)-W. L. "Tex" Heaton (Dept. 73) and Roman Ramirez-Warren Wright (both Dept. 6).

The gross division was won with a 69 shot by Bob Kreuger (Dept. 6) and Bill Esser (BUWEPSREP).

Bob Anke and George DeBell, (both Dept. 14), M. Van Den Hende and Frank Molina (both Dept. 6), Bob Glass and Rick Fieger (both Dept. 5), scored 63s. Jeanne Wood and John Kovalchek (both Dept. 6), scored 64, while at 65 were Fred Bentley (Dept. 22) and Gordon Webster (Dept. 27), Bill Burke and Sam Petljanski (both Dept. 5), Bryce Overcash and "Red" Fenwick (both Dept. 6), Bob Blake (Dept. 21) and Bill Petras (Dept. 6).

In gross division second place with score of 72 were Al Zarracina and Tom Guilfoyle (both Dept. 6). Shooting a 75 were Bob Stephens (Dept. 51) and Jim Densmore (Dept. 4), Bob Anke

Next PRA Golf At El Rancho

Entries are now being accepted for the PRA golf tournament scheduled May 19 at El Rancho Verde Country Club, Rialto.

Commissioner Wes Lanier announced a \$5 entry fee (covering green fees and prize money) for the low net/low gross by flights tourney. A breakdown of flights will be posted on all GD/Pomona bulletin boards.

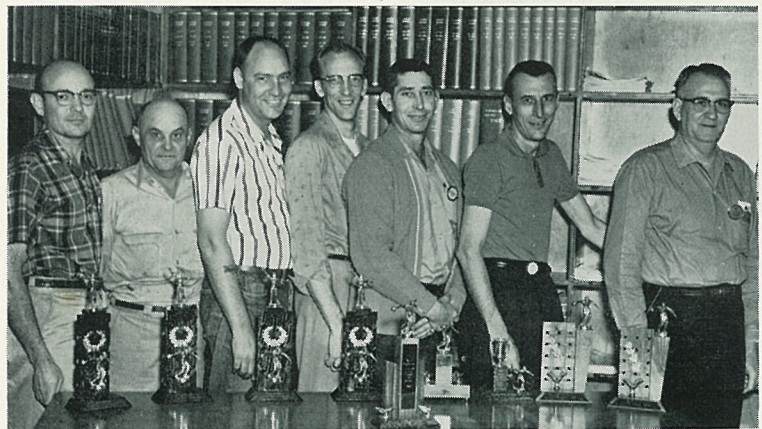
Lanier advised golfers to sign up early as starting times will be issued on a first come, first served basis. He urged players not to hesitate signing up if they don't have a foursome. Registration can be made individually, by pairs or threesomes and each group will be filled.

A valid handicap card is required for entry, Lanier said. Anyone needing a card should call or see Jackie Daoust, employee services, Bldg. 1, ext. 208.

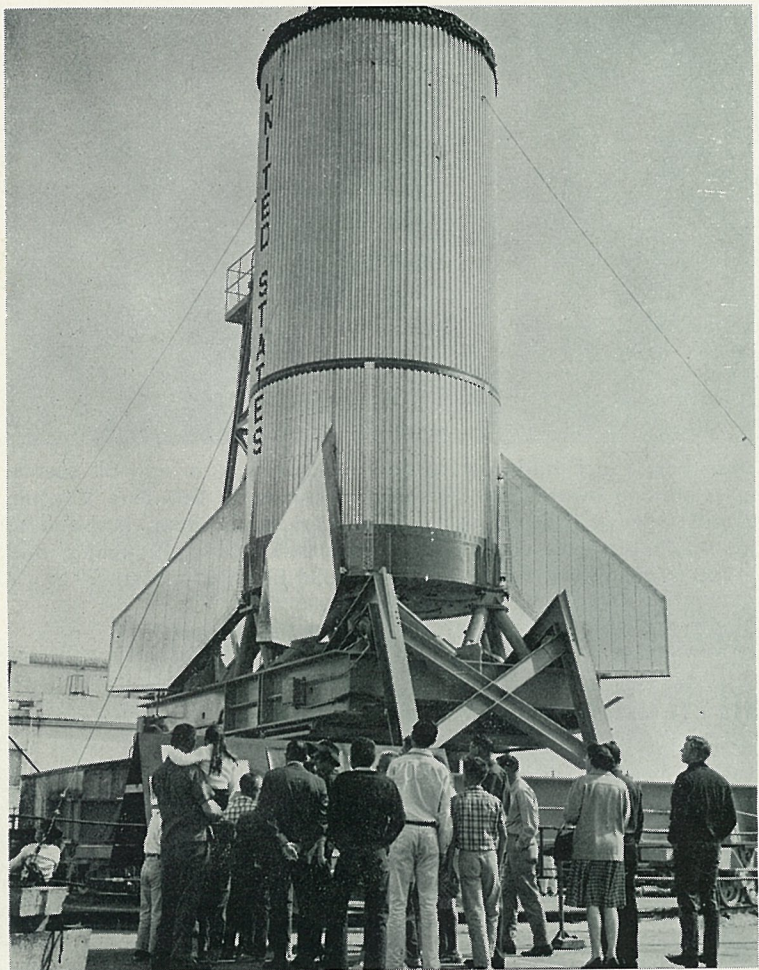
For additional information call Adam Grik, ext. 4252, or Lanier, ext. 3256.



GOLFERS ALL—Tied for low net in partner's best ball tourney at Gilman Springs were (top photo), Warren Wright and Roman Ramirez, both Dept. 6, standing left center; Tex Heaton, Dept. 4, standing right, who teamed with Roger Arbaugh, Dept. 4, not shown. Bob Kreuger, Dept. 6, and Bill Esser, BUWEPS, kneeling, won low gross. In lower photo are Margaret Giles, Dept. 6, and Mrs. Lillian Sweitzer, wife of Dept. 4's Wes Sweitzer, who won low net and low gross in Spring Round-Up tournament.



"DANGEROUS"—Daingerfield Division bowlers took top honors in every event at the annual civic bowling tournament at Daingerfield, Texas. From left: Charlie Walls, Floyd White, Vernon Jones, Joe English, Joe Gammill, Heflin Parris and Phil Steger.



FIRST LOOK—Over 700 GD/Convair men, women, and children turned out for a look at the first Little Joe II launch vehicle, assembled on its launcher in Plant 1 experimental yard, at a special open house for families late last month.

Score Briefed on Rocket Motor That Will Propel Little Joe II

A three-day familiarization and orientation on the Little Joe II propulsion unit was conducted by Aerojet-General Corp. training specialists at GD/Convair March 25-27.

Twenty-one GD/Convair and NASA men were briefed on the Algol-ID-Mod 2 solid propellant rocket motor and ground support equipment for the motor which will propel Little Joe II launch vehicles. Those taking the course

represented engineering, experimental, inspection, and safety functions.

C. B. Bonham and F. J. Hunger, senior instructors in customer training from Aerojet-General's Technical Services Division of the Solid Rocket Plant at Sacramento, Calif., instructed. The training course was coordinated by H. W. Rubottom of GD/Convair educational services.



BRIEFING—F. J. Hunger and C. B. Bonham of Aerojet-General Corp. explain handling procedures of Little Joe II rocket motor to group of GD/Convair and NASA people during recent training course at San Diego plant.

GD/FW's J. C. Starnes Elected Chairman Of Aerospace Industries Committee

J. C. Starnes, GD/Fort Worth supervisor in applied manufacturing research and process development, was elected chairman of the

manufacturing equipment committee of the Aerospace Industries Association at a recent meeting in San Francisco.

The committee is composed of executive manufacturing management men from companies which primarily make aerospace products in the U.S. B. G. Reed, GD/FW vice president-operations, is the company's representative on the AIA manufacturing committee.

Starnes' duties will include directing activities in three basic areas: determining advanced techniques and processes for the industry; initiating projects that meet basic requirements of increasing manufacturing efficiency and reducing product cost; and enhancing industry position in the area of numerically controlled equipment.

Astro's Deane Davis Represents Industry

Deane Davis, chief design engineer—Centaur, General Dynamics/Astronautics, represented the aerospace industry during the University of Colorado's World Affairs Conference last week.

It was Davis' fourth consecutive appearance in the week-long event which drew 80 invited guests representing every business and professional group and including four ambassadors of foreign nations.

Panels debated and discussed current topics before student groups.

California to 'Lose' One Hour April 28

Days will be longer—or seem that way—for Californians when Daylight Saving Time goes into effect again the last of this month.

General Dynamics people in California will turn clocks ahead one hour the last Sunday of the month (April 28).

The time change affects divisions in San Diego, Pomona, and off-site facilities.

Nights in Open

Two at GD/FW Survive 3-Day 'Crash' Drill

"Don't throw anything away—everything can be used for something."

The advice came from GD/Fort Worth flight department's W. E. Denton and Grover Tate following a recent three-day survival exercise in rugged back hill country near Gordon, Texas.

True to their own counsel, the durable pair used virtually everything in their survival kit, plus many items of nature—including toothbrushes made from willow twigs.

The B-58 navigator and DSO were blindfolded and released at night some distance apart.

There followed three days and nights of foraging for food and water—and protecting themselves from the elements (temperatures at night dipped to near-freezing).

"Paratents" were made from parachutes, with life rafts for mattresses.

"Later, we had to spread the parachutes to aid the rescue crew in 'finding' us," Tate said.

Besides survival-kit rations, the men used a gill net to catch perch and catfish, which they roasted on a spit. Both got their first taste of armadillo. It was "a bit dry and stringy . . . but edible."

Forewarned of the possibility of mountain lions, both were relieved the first night when a "loud crackling in nearby brush" turned out to be cows.

The B-58 crewmen emerged in good shape physically, with the following additional recommendations to airmen who bail out over similar terrain:

Know your equipment thoroughly; dress for the most extreme weather that you would likely encounter along your flight path; carry a candy bar or two in your pockets; eat well before your flight; make a shelter as soon as possible.

Also, check each piece of equipment before you try to use it; make a blanket with some type of insulation (leaves, grass, paper) or your parachute; keep size of fire small in dry country; catch only as many fish as you need—or cook and smoke them for later use; rest is as important as food—provide for it as you would food; find water first and food later.



BRAZIL BOUND—First Varig 990A wings off from GD/Convair flight line on schedule early April 3 on delivery flight to Porto Alegre, Brazil. Below, W. D. Carrier, GD/Convair pilot, and Capt. O. Silveira of Varig point out route from California to South America. Others of flight crew are C. J. Falkenthal, GD/Convair flight engineer; Varig's M. Kern, flight engineer; Capt. B. Scalabrini; F. Petersen, flight engineer.

First of Varig's 990As Delivered to Brazil

First of three 990A jetliners to move out of General Dynamics/Convair this month for Varig Airlines of Brazil arrived at the South American city of Porto Alegre April 4 after an overnight delivery flight.

The advanced version Convair jet transport, piloted by W. D. Carrier of GD/Convair and Capt. O. Silveira of Varig, took off a few minutes before its appointed departure time of 7 a.m. April 3.

First leg of the flight took plane and passengers from San Diego to Panama City where they spent the night. Next day took them to Lima, Peru, and across the Andes to Porto Alegre, Varig's jet transport base of operations.

Other flight crew members on first delivery were C. J. Falkenthal, GD/Convair flight engineer; Capt. B. Scalabrini; M. Kern, and F. Petersen, flight engineers, all of Varig.

Second Varig 990A was due to go out of San Diego late last week and a third Convair jetliner is scheduled for delivery before the end of the month.

Flight crew on the second craft were A. P. Wilson, GD/Convair pilot; Ludy Knudsen, GD/Convair flight engineer; Varig Capt. Renato Contins and Murilo Alvares; Gilberto Salger, flight engineer;

Victor Martinewski, navigator; Ivo Silveira, radio operator.

P. H. Selby, GD/Convair flight training supervisor, accompanied the flight for consultations on training at Porto Alegre and Rio de Janeiro, and Viasa's headquarters at Caracas, Venezuela.

George Pohlman and Ed Griffin of customer service are assigned to Varig as field service representatives to direct maintenance training. Tex Ashmore, field service representative, will fly 990As during the first two months in actual passenger service to oversee maintenance operations at the various stops.

The first 990A will probably go into service about the first of June from Rio de Janeiro to Los Angeles, said C. B. Edmonds, Varig's International Division maintenance manager, at GD/Convair during delivery of the airline's Convair jet craft.

GD/Convair and Varig Men Hold Reunion

Two small town "boys" had an unexpected reunion at GD/Convair over 20 years and thousands of miles distant from their home town at Lincoln, Mo.

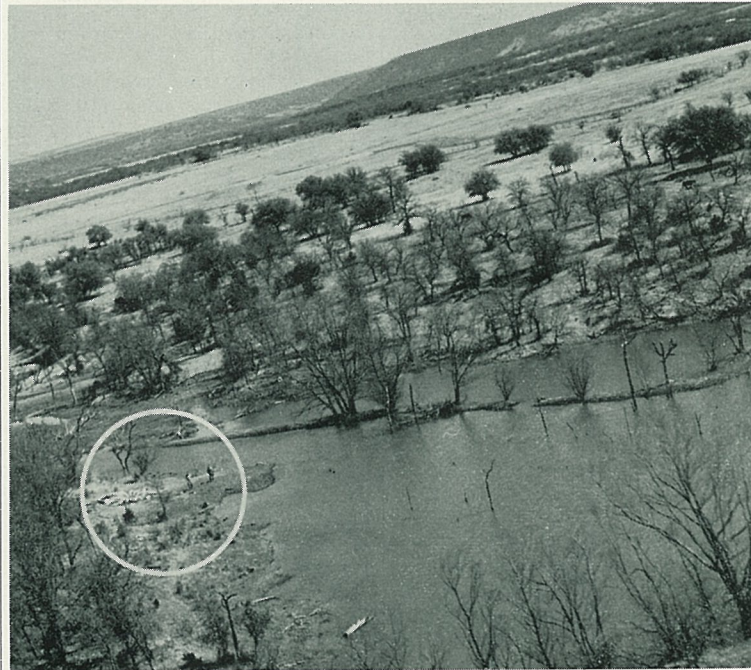
GD/Convair's H. W. Balke and Varig Airlines' C. B. Edmonds came face to face for the first time in 23 years when Balke walked into Edmonds' office to present release papers for Varig's first 990A. With one look and one voice they echoed, "Haven't I seen you some place . . . ?"

Balke, responsible for commercial transport inspection and customer coordination at GD/Convair, and Edmonds, maintenance manager of Varig's International Division headquartered at New York City, both grew up and attended school in the small Missouri town.

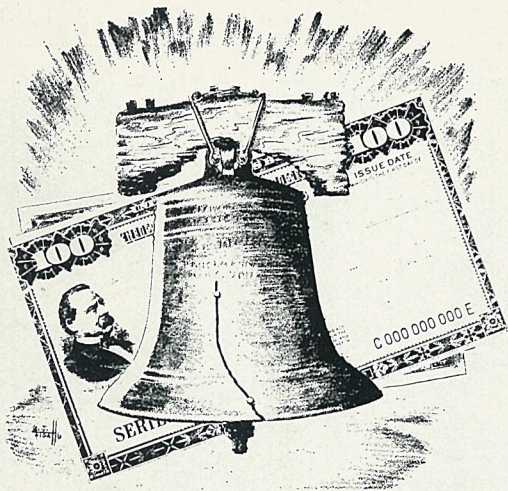
TWA's 880s Pass 100,000 Air Hours

Trans World Airlines is the first airline to pile up over 100,000 hours of flight time with Convair-built jet transports.

As of the first of March the 20 Convair 880s flying under TWA colors had spent 100,730 hours in the air since the first TWA 880 was put into operation two years ago. Each TWA 880 now averages 6.9 hours in service every day.



IN THE WILDS—"Rescue" plane spots spread parachutes of GD/FW's W. E. Denton and Grover Tate, practicing survival in Texas back country.



"SYMBOLS OF INDEPENDENCE"

70 Pct. Goal Set For Bond Buying

A four-pronged drive to increase U. S. Savings Bonds purchases by payroll deduction will begin June 17 for General Dynamics/Astronautics, GD/Pomona, GD/Convair and GD/Electronics-San Diego.

It will be keyed with a nationwide campaign among major companies, aimed at boosting the percentage of bond buyers to 70 per cent or more of employment.

"I know you understand how im-

portant it is that we succeed in raising our percentage of participation . . . and I am sure you know my deep interest in having our Corporation effectively support this effort," Roger Lewis, president of General Dynamics, wrote division presidents. "With your enthusiastic assistance, General Dynamics can reach its goal."

Each division will conduct its own (Continued on Page 2)



ROGER LEWIS

GIIMMID POMONA AND DAINGERFIELD EDITION

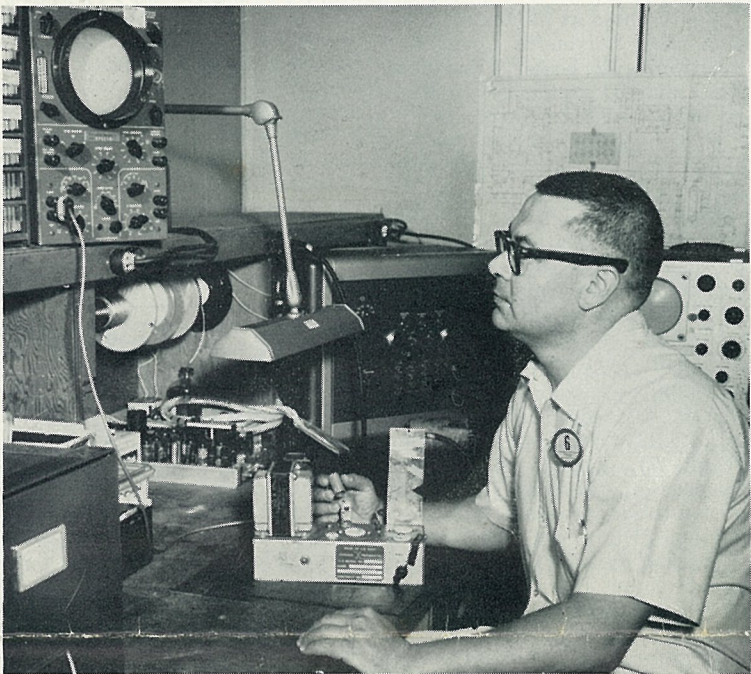
GENERAL DYNAMICS NEWS

Vol. 16, No. 11

PUBLISHED BY GENERAL DYNAMICS CORPORATION



Wednesday, May 29, 1963



COST CUTTER — Joe Sanchez, GD/Pomona engineering development technician (Dept. 6), checks operation of repaired chopper used in laboratory computers. Sanchez received \$364 ES award for idea to repair discarded units.

GD/Pomona's Contract Total Tops \$52 Million for 1963

A \$21,928,565 contract for continued production of guidance, control and related components of Terrier and Tartar guided missiles was awarded May 17 to General Dynamics/Pomona by the U. S. Navy.

The missiles are produced at Weapons Industrial Reserve the government-owned Naval Plant at Pomona which GD/Pomona operates for the Bureau of Naval Weapons.

Both Terrier and Tartar supersonic surface-to-air guided missiles have been in production at GD/Pomona for several years. Technical direction for both missile programs has been supplied

by the Applied Physics Laboratory of Johns Hopkins University, Silver Spring, Md.

Terrier is a major element in the Navy's missile arsenal and now arms 22 United States ships including aircraft carriers, cruisers and guided missile frigates.

Tartar is a more compact weapon which has been operational since 1960. It is used as primary anti-aircraft battery aboard 17 guided missile destroyers and as secondary battery on two cruisers.

The latest Tartar/Terrier contract brings the division's 1963 announced contract total to \$52,676,611.

Chopper Idea Earns Award

An idea for repairing noisy choppers in computers at General Dynamics/Pomona has earned an Employee Suggestion award of \$364 for Joe Sanchez, engineering development technician (Dept. 6).

Prior to installation of Sanchez' idea choppers used in AC balance section of laboratory computers were replaced with new ones when they became noisy from contact bounce or from foreign matter between contacts.

Sanchez suggested that casings be removed from choppers by grinding off ridge around base. The contacts can then be cleaned and casings reinstalled to base with solder tacks and sealed with tape.

Repaired choppers provide satisfactory service about two-thirds as long as new units.

Annual savings from Sanchez' idea are estimated at \$3,640. A check representing half of the total \$364 award has been presented to Sanchez. He will receive the second half in six months when savings are re-evaluated.

"Although we are very glad to receive suggestions of any nature, we are especially pleased with those that do not require extensive installation costs," F. J. Fuller, who is in charge of the Employee Suggestion program, said. "Sanchez' suggestion definitely falls into this category."

Pomona Men Elected Toastmaster Officers

All offices of Toastmasters Area B-5 were won by GD/Pomona men at elections May 4 at Hull House Restaurant, Pomona.

Directing the activities of seven clubs in area comprising Pomona, Claremont, LaVerne and Covina will be Randy Wills, area governor.

Assisting Wills will be Rick Little, educational assistant area governor; Bill Ward, administrative assistant area governor; and Don Long, secretary-treasurer. All are Dept. 6 employees.

New officers will be installed June 1 at ceremonies conducted by Don Foss, governor of Founders' District. He will be assisted by Jack Williams, (Dept. 6), lieutenant governor for Division "B."

IEEE To Hear Talk On Mach 3 Transport

Orange Belt Subsection of Institute of Electrical and Electronic Engineers will meet June 12 at Mural House, Ontario International Airport.

R. R. Heppe, chief of advanced systems research for Lockheed Aircraft Corporation will discuss the "Mach 3 plus" commercial air transport and problems associated with its development. For additional information contact Ray Shield, ext. 7143, or Bud Johnston, ext. 5150.

Senior Engineer Need Continues

A need continues at General Dynamics/Pomona for senior engineering personnel and employees are again asked to make personal recommendations of qualified persons.

"We were highly pleased with response to past appeals in General Dynamics NEWS," K. G. Beyer, manager of engineering personnel and training, said last week. "However, the need for additional senior engineers continues."

Most critical needs exist in the areas of infrared, application of infrared techniques, infrared and ultra-violet guidance system design, advanced systems research, control system dynamics, structural dynamics, aerodynamics,

thermodynamics, materials, instrumentation, support systems, auxiliary power supplies and guidance noise analysis.

Persons needed to fill available positions must have at least bachelor of science degrees in engineering, mathematics or science.

Recommendations may be made on the accompanying form and sent to O. C. Burd, personnel administrator, zone 3-15.

Individuals recommended in this fashion will receive immediate consideration and be provided with appropriate information pertaining to positions available.

Questions concerning this effort may be directed to engineering personnel, mail zone 3-15.

Complete this form and submit it to:

O. C. Burd, Engineering Personnel, Zone 3-15

I would like to recommend:

Name Telephone

Address City & State

College Graduate? Degree: BS MS PhD
Yes No

Major Subject:
Aeronautical Engineering Mechanical Engineering
Electrical Engineering Mathematics
Electronic Engineering Physics
Civil Engineering Other

Experience: (years and type)

Recommended by: Name Dept. Ext.

May we use your name as the person who recommended him? Yes No

Science Students Reminded To Enter Annual Exhibition

Outstanding achievement in the field of science by students in junior and senior high schools of Southern California will again be recognized through the seventh annual Junior Technical Science Exhibition co-sponsored by the Los Angeles County Fair Association and General Dynamics/Pomona.

Applications are now being accepted for the exhibits which will be displayed during the fair, Sept. 13 through 29. John W. Corr Jr. of educational services, who is coordinating the exhibition program, urged all students to submit applications prior to the close of the present school term.

Any student enrolled in grades 7 through 12 in public, private or parochial schools is eligible. Competition is in two divisions:

Junior, grades 7 through 9; Senior, grades 10 through 12.

"From the more than 3,000 applications expected, only a limited number will be selected for display at the exposition," Corr said.

"While the chief award lies in the privilege and distinction of displaying a project and in meeting other exhibitors to share ideas and information, the winners in each division will become shareowners in General Dynamics Corporation with full voting privileges," Corr added.

Each school sponsoring a winner will receive recognition.

Application blanks and further information may be obtained by contacting Corr, ext. 3211, or by writing to General Dynamics/Pomona, P.O. Box 1011, Pomona.

Please Keep Appointments For June 4-5 Blood Donation

The Red Cross bloodmobile will visit General Dynamics/Pomona next Tuesday and Wednesday (June 4-5), H. S. Naish, chairman of the Plant Red Cross Blood Drive Committee, has announced.

The unit will be located in Bldg. 2 at Cols. 4 and 5, Row B (adjacent to cafeteria) between the hours of 9:30 a.m. and 3 p.m. on June 4. The following day it will be located at PRA Clubhouse from 9:30 a.m. to 3 p.m. Employees will use the railroad gate No. 58.

"I would like to stress the importance of each donor being on time for his appointment," Naish said. "If for any reason a donor cannot make his scheduled time, he should contact E. J. Glasson in advance at ext. 206-7 so another person can be taken in his place."

"GD/Pomona has one of the largest blood banks in Southern California, with a total of more than 9,000 pints donated since the first bloodmobile visit in 1953," he continued. "During 1962, a total of 707 pints were used by GD/Pomona employees and their immediate families."

The Red Cross replaces blood on a pint-for-pint basis at no charge to the patient or employee. Only a small service charge is made by the hospital.

McAVOY NAMED TO COLLEGE GROUP

C. E. McAvoy, General Dynamics/Pomona educational services representative, has been appointed chairman of the Industrial Electronics Advisory Committee for Chaffey College. He will serve for the 1963-64 year.



25-YEAR MAN—M. R. Jackson, Army weapon systems quality control chief (Dept. 7), receives 25-year service pin and congratulations from C. F. Horne, GD/Pomona president.

Run-Offs Completed, Mgt. Club To Install Officers June 14

Three balloting were required, but all officers of General Dynamics/Pomona Management Club now have been elected and will be installed at the club's June 14 meeting at Pomona Elks Club.

J. J. McCormick, president, G. E. Lombard, vice president, J. E. Shaner, treasurer, and W. M. Smith, membership secretary, were elected in regular balloting.

In the first run-off balloting, F. J. Fuller was elected recording secretary and T. A. Rust was

named to the board of control.

C. D. Brown, the other new member of board of control, was named in the second run-off election. Club bylaws require that officers be elected by a majority.

The June meeting, sponsored by factory departments, is annual Father-Child Night and special entertainment has been obtained. Zeno Klinker, comedy writer for Edgar Bergen for more than 22 years, will be the chief attraction.

Log Book Entries Awards

POMONA

Employee Suggestion awards at GD/Pomona totaled \$1,145 for the period ending May 3.

Dept. 6, Engineering: J. Sanchez, \$364.

Dept. 22, Manufacturing Control: A. Peck, \$35.

Dept. 25, Plant Engineering: E. E. Rogers, \$157.

Dept. 42, Tool Manufacturing: W. F. Mayles, \$20.

Dept. 51, Machine Shop: F. Chmela, \$20; E. R. Wiersma, \$32 (additional award).

Dept. 61, Sub-Assembly: G. F. Cox and D. F. Kramer, \$10 each (joint award).

Dept. 63, Electrical Assembly: C. K. Bellicourt, \$15; D. E. Huff, \$84; A. B. McDonald, \$20.

Dept. 73, Final Assembly and Tests: J. H. Davis, \$323; C. Maddock and J. Lopez, \$10 each (joint award); D. G. Tucker, \$35.

Service Emblems

POMONA

Service emblems due during the period May 16 through May 31.

Ten-year: Dept. 3-3, R. J. Booth; Dept. 4-2, Margaret M. Townsend; Dept. 6, R. E. Ames, Carrie W. Harvey, Wynona S. Holmes, E. T. Hudson; Dept. 22-2, D. D. Brown; Dept. 24, M. S. Green; Dept. 25-2, R. T. Snider; Dept. 27-1, H. H. Flowers, A. J. Schmitt Jr.

Dept. 31, R. R. Bisbee, Thomas Smith, Jesse Woodrum; Dept. 42, V. M. Hankins, R. L. Roy; Dept. 61, F. J. Albane, W. E. Goggins; Dept. 72, W. J. King Jr., Fannie R. Mitchell, Vay L. Rozar; Dept. 73, D. M. Conti.

Five-year: Dept. 3-2, Marjorie A. Galbreath; Dept. 6, W. A. Dieter, R. S. Parker; Dept. 11-1, J. C. Hansen Jr.; Dept. 22-2, Sam Sciortino; Dept. 27-5, W. F. Magill; Dept. 31, Opal P. Averitt, Alva Bradley, V. R. McCaslin; Dept. 51, F. B. Hoesch, E. J. Prieur.

Promotions

POMONA

Promotions to or within supervision effective May 6.

Dept. 6, Engineering: To group engineer, Vitaly Bloom, A. C. Hagelberg. To technical chief, L. P. Buchanan. To asst. project engineer, D. D. Givens.

Dept. 27, Quality Control: To inspection supervisor, L. J. Loughran.

Dept. 73, Miss. F/A Test: To assistant foreman, R. E. Minthorne.

General Dynamics NEWS

Published by General Dynamics Corporation, One Rockefeller Plaza, New York 20, N. Y.; with editorial headquarters at San Diego 12, Calif., P.O. Box 1950, telephone 296-6611, ext. 1071. Logan Jenkins, editor-in-chief.

Astronautics Editorial Offices, Bldg. 8, GD/Astronautics, Mail Zone 130-01, P.O. Box 1128, San Diego, 12, Calif. Telephone 277-8900, ext. 3322. Staff: Bryan Weickersheimmer, editor; Willard Harwood.

Convair Editorial Offices, Bldg. 32, Plant 1, GD/Convair, Mail Zone 1-320. P.O. Box 1950, San Diego 12, Calif. Telephone 296-6611, ext. 1071. Staff: Grayce Fath, Helen Pemberton.

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Fort Worth Editorial Offices, Col. 72, Adm. Bldg., GD/Fort Worth, Mail Zone 0-50, P.O. Box 748, Fort Worth 1, Texas. Telephone PERshing 2-4811, ext. 2961. Staff: Dave Lewis, editor; Mary Beck.

Pomona Editorial Offices, Room 106-D, Bldg. 1, GD/Pomona, Mail Zone 3-3, P.O. Box 1011, Pomona, Calif. Telephone, National 9-5111, ext. 6226-5279. Staff: Glenn Kehr, editor; Carol Sowers. Daingerfield news office, P.O. Box 947, Daingerfield, Texas. Telephone Lone Star, Texas, 2211, ext. 424.

Affiliated editions of General Dynamics NEWS are published in Rochester, N. Y., covering GD/Electronics and Stromberg-Carlson, editorial offices, 100 Carlson Road, Hubbard 2-2209, ext. 2555. Norman Howden, editor; and at Groton, Conn., covering GD/Electric Boat, editorial offices at Groton, Hilltop 5-4321, ext. 300 and 513, Joseph Tracey, editor.

John McMahon Gets CAP Post

John McMahon of General Dynamics/Pomona's special devices group (Dept. 6) has been appointed communications officer of the California Wing of the Civil Air Patrol by Wing Commander Raymond Gaver of Pasadena.

McMahon, a major, was formerly communications officer of the Old Baldy Squadron 59 and has been active in CAP work since 1952. He is now in charge of all CAP communications in California.

In addition to communication duties, McMahon is also a veteran CAP search pilot. In 1960 he was named "Civil Air Patrol Man of the Year, California Wing" for his efforts in aerial search and rescue work.

McMahon was one of the first 28 employees to move from San Diego to the new Pomona Division in 1952. He had previously been employed at San Diego on the MX774 program and other early missile projects.

The Civil Air Patrol is an auxiliary of the U. S. Air Force and has been charged with responsibility for locating and rescuing downed pilots in a nationwide program. The voluntary, unpaid group is active in aviation education and conducts a cadet program for boys and girls from 14 to 18. It provides aid in local and national emergencies and disasters through its flying and ground units and network of more than 8,000 CAP radio stations.



PROMOTED — John McMahon of GD/Pomona (Dept. 6) is new communications officer of California Wing, Civil Air Patrol. He was named "CAP Man of Year, California Wing" in 1962 for his efforts in aerial search and rescue work.—Robert C. Frampton photo.

ATTEND CONFERENCE

Four GD/Pomona engineering department men, members of Civil Air Patrol, attended the annual CAP Pacific Regional Conference at Portland, Ore., earlier this month.

They are: Capt. Robert Frampton and Lt. Robert Hempy of Old Baldy Squadron and Maj. John McMahon of California Wing staff, and John Hykes of Old Baldy Squadron.

Pete Turner Elected By Community Band

Pete Turner (Dept. 5, GD/Pomona) was recently elected president of Pomona Community Band which is rehearsing for a series of open air concerts to be presented in Ganesha Park bandshell this summer.

Turner has been a member of the Community Band for two years. He also plays with the Claremont and Ontario symphony orchestras and is a past president of the Society for the Preservation of Dixieland Jazz.

A tuba player since he was 12 years old, Pete was a member of the Missouri University Band during his undergraduate days. While attending Missouri U. he had the distinction of being the only male member of the Stephens College orchestra. (Seems there was a scarcity of tuba players at the women's college, located in the same town as the state university!)



MAULER TEAM—Mauler Industrial Team Members were represented at PERT/Cost training sessions for instructors May 9-10 at GD/Pomona. L. P. Schwartz, GD/Pomona assistant supervisor, planning and scheduling, conducts training session.

PERT/Cost Training Session Held for Mauler Team Members

A two-day training session for Mauler PERT/Cost program instructors was held May 9-10 at General Dynamics/Pomona.

Represented at the training session were Burroughs Corp., GD/Electronics-Rochester, Raytheon, FMC and GD/Pomona—the Mauler industrial team members.

PERT, an abbreviation for Program Evaluation Review Technique, serves as a management control tool for defining, integrating and interrelating what must be done, and when, in order to accomplish program objectives. PERT/Cost is an extension of the technique which adds cost and technical performance to time (schedule).

J. B. Alldredge, chief of Mauler PERT/Cost implementation (Dept. 7), directs the program. Purpose of the PERT/Cost implementation program is to have Mauler PERT/Cost programs in operation by all industrial team members on July 1. Instructors attending the two-day training sessions will establish and conduct appropriate familiarization courses at their companies.

At GD/Pomona the PERT/Cost implementation team is composed of Alldredge, chairman; John Gale of Army weapons systems management, vice chairman; W. M. St. Clair of accounting, F. P. Morgan of operations, L. P. Schwartz of engineering planning and estimating, R. B. Cowper of estimating, H. E. Hilsenberg of contracts, W. G. Soden of computing, G. B. Doughty of plans and program, Lyle Hill of procurement, J. C. Ratliff of source direction, Paul Reid of systems engineering, A. E. Lambert of educational services and J. A. Pomeroy of systems and procedures.

C. E. Myers of educational services and L. P. Schwartz of engineering planning and scheduling were instructors for the

100 From BUWEPSREP Take TV Studio Tour

Approximately 100 BUWEPS-REP employees and guests rode chartered buses into NBC television studios in Los Angeles on April 23 for taping of "Truth or Consequences" program.

Guy Bellanger and his wife were selected from the group to appear as contestants on the show which was televised May 8. The Bellangers won \$50 and several household items.

The trip was sponsored by BUWEPSREP Welfare and Recreation Association.

Two From GD/Pomona Will Present Papers

Inge Maudal and Hubert Wang of GD/Pomona's engineering department will present technical papers at the 1963 Joint Automatic Control Conference, University of Minnesota, June 19-21.

Maudal's paper is entitled "Stability analysis in a bi-stable multi-loop system." Wang will present a paper entitled "Analysis of piece-wise linear systems by the method of integral equations."

two-day training session.

Attending were: Catherine Scott, Ralph Johnson, Charles H. Rhoads and Jim Rath of Burroughs Corp.; Norman Lester, S. Bruce Fyfe and J. W. Arpey of GD/Electronics-Rochester; A. W. Deckel, R. P. Reagan, C. P. Andrews, W. J. Gately and F. T. Pedulla of Raytheon; W. G. Jackson, L. D. Tudor, Ken Jones and Wayne Sisk of FMC; C. G. Strain and Don Butler of GD/Pomona and Ben Merrill, PERT/Cost representative of USAMICOM, Redstone Arsenal.

Depts. Rated In Housekeeping

Safety and housekeeping inspection ratings at GD/Pomona for April have been released by H. S. Naish, chief of employee services and safety.

Ratings (with "safety" grade listed first) were: material operations, good, excellent; engineering area one, excellent, good; engineering area two, fair, fair; engineering area three, fair, fair; engineering area four, good, good.

Engineering area five, good, fair; engineering area six, good, good; engineering area seven, fair, fair; engineering area eight, fair, fair; engineering area nine, fair, fair; engineering area ten (Bldg. 2), excellent, excellent; engineering area ten (Bldg. 4), excellent, excellent.

Operations planning and manufacturing development, excellent, excellent; manufacturing control, good, excellent; tool engineering, excellent, excellent; plant engineering, good, good; quality control, excellent, excellent.

Experimental factory, excellent, excellent; tool manufacturing, excellent, excellent; machine shop, good, good; sheet metal, excellent, excellent; processing, good, excellent; sub-assembly, excellent, excellent; electrical assembly, excellent, excellent.

Test equipment manufacturing and maintenance, excellent, excellent; final assembly and test, excellent, excellent.

R. W. Thorpe Qualifies For Writing Award

R. W. Thorpe (Dept. 6) has qualified for the General Dynamics/Pomona Writing Award, C. D. Cornell, assistant to the president, has announced.

An article written by Thorpe, entitled "Transistorized constant-current source provides infinite output impedance," has been accepted for future publication by Electronic Design magazine.

The award program provides for payment of \$150 for each article written by a GD/Pomona employee and accepted for publication by a trade, technical or professional journal.

Pomona Son Member Of Winning Patrol

John B. Taylor Jr., son of Mary Lou Taylor (Dept. 63, GD/Pomona), is a member of the Presidential Award winning Boy Scout patrol of LaPue.

The Woodpecker Patrol of Troop 643 competed against more than 200 patrols in Boy Scout Lucky Trails Camp-O-Ree April 26-28 at Legg Lake. The boys scored 941 points out of a possible 1,000 to win first place in the annual event.

For the Taylors it was a double victory as John Taylor Sr. serves as Patrol Dad.



CHEERS — GD/Astronautics led cheering during highly successful Cooper orbits, but other General Dynamics divisions supplied echoes. At top left, B. G. MacNabb, GD/Astro operations director at AMR, shakes hands with astronaut as he enters elevator just prior to flight, while J. R. Dempsey, GD/Astro president, is in back-

ground. In center Nancy Brown, Burt Brckett and Maurice Wood of communication dept. turn out first plant notice. At right, at tracking station atop Astro's Bldg. 4, Dave Fyffe and Mary Peddy pick up capsule on first pass over San Diego. Astro's Atlas 130-D launched Cooper into orbit.

Cheers For Cooper's Epochal Flight Include Kudos For GD/Astro's Part

While the nation and the world feted Astronaut Gordon Cooper, General Dynamics Corporation folk who played vital roles in his success quietly accepted congratulations from many points.

Details of Cooper's orbital flight aboard Mercury MA-9 spacecraft "Faith 7" are legendary. So is the perfect launch of Atlas 130-D which made it possible.

The launch phase was dubbed a "textbook flight" and "picture shot" executed with the "precision of a turkey shoot." Each description was a direct tribute to the thousands of men and women within General Dynamics who contributed that "extra

something" that has made the manned Mercury flight program a perfect success.

Gen. Bernard Schriever, commander, Air Force Systems Command, summed up official feelings in a letter to GD/Astro President J. R. Dempsey lauding Astro employees.

"Results reflect a brilliant culmination to many months of preparation and each man and woman has every right to be proud of a job extremely well done. I would appreciate your conveying my deepest appreciation to all of those concerned with the flawless performance of the booster system and completely successful launch oper-

ation," wrote Gen. Schriever.

Major Gen. Ben I. Funk, commander, Space Systems Division, AFSC, bestowed special commendations on T. J. O'Malley, Astro launch operations manager, and C. D. Fowler, site manager, and those who work with them.

General Funk said:

"I am well aware of the vital role which Atlas has played in the Mercury Program and a great deal of credit for the success of the program is due to the untiring efforts you and the members of your staff have put forth in assuring the reliability of the booster and the safety of the astronaut..."

Azusa Continues Fantastic Record For Reliability on Cooper Flight

The May 15 launch of Mercury Astronaut Gordon Cooper marked the 500th time Azusa—General Dynamics/Astronautics' fantastically reliable tracking system—performed its vital tasks for the nation's space effort.

Range safety, missile system evaluation and orbit determination: these are the assignments to which Azusa has contributed during nearly every launch over Atlantic Missile Range.

Its reliability: 99.2%.

In the 17 years since its development began in conjunction with the MX-774 program (from which Atlas also evolved), Azusa has been a growing tribute to ingenuity, engineering innovation and skill, advancing technology—and perhaps most of all, to people.

J. W. Crooks and R. C. Weaver were part of the MX-774 guidance study undertaken by GD/Astro's parent Convair division in 1946, and are credited as co-inventors of Azusa.

As early as 1947, an experimental system had been built which successfully tracked an air-

craft to 139 miles with an error of 800 feet during tests in San Diego.

By 1949, the Air Force had expressed interest in the expanding system, and a contract for a complete tracker was awarded. The following year, another Azusa veteran, Al Roth, joined the program.

Also involved from those early days were D. C. Prim, J. R. Blackwood, L. N. Lawhead, D. H. Roll, J. C. VanCaster, D. M. Hill, T. B. Field, M. M. Cox. All were on hand to see the system—Azusa Mark I—completed in 1953, and installation begin at Cape Canaveral.

Convair and Atlantic Missile Range conducted field tests on the system through 1956, tracking aircraft and ballistic missiles as early as 1954.

Joining in the growing program during those years were J. J. Maxwell, and R. J. Jacobs, W. R. Benton, Albert Wittenberg, R. A. Harwood, A. R. Horsely, A. C. Greeley, L. G. Chase, T. H. Scholder.

On Oct. 2, 1956, data on the

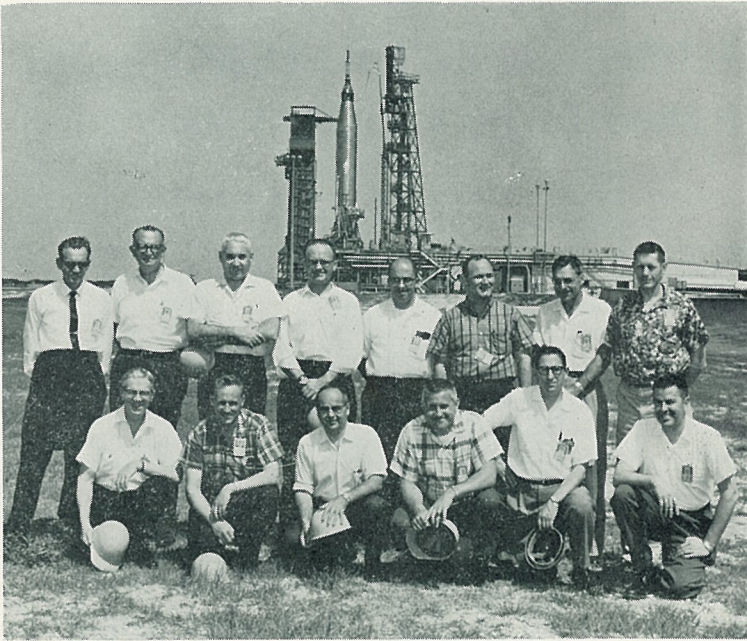
experimental system revealed fantastic promise: Azusa Mark I, if equipped with appropriate missile transponder and antenna, could track up to 3,000 miles!

That same year, GD/Astro received a definite contract for a permanent, operational system—Azusa Mark II—to be installed at the Cape.

H. L. Copeland was on hand to hear the news, as were H. K. Shirley, J. A. Moody, Art Saastad, Wilma Early, D. F. Nichols, A. R. Evans, E. C. Frankoski, M. E. Sheski, H. A. Vasques, H. B. Jenkins, Eugene Swindell, J. B. Porter and B. G. Anderson.

About that time an IBM 704 computer was added to the system for the first real-time impact prediction, and during 1957 special filters and operational controls were incorporated to improve tracking under adverse flame attenuation effects.

Joining the Azusa team now were T. R. Woods, Valerie Knettle, J. H. Getz, George Goddard, W. P. Uerkvitz, F. W. Shaw, G. W. Moses, S. R. Zanin, L. G. Karel, R. E. Fixen, R. A. Grygar.



CAPE TIGERS—With Atlas that took Gordon Cooper aloft gleaming in background, members of "Tiger Team" at Cape Canaveral pose for historic picture. At left, kneeling, is C. F. McCabe, team captain.



TIGERS — Not all members of GD/Astro Mercury "Tiger Team" (special group that followed Cooper's Atlas from beginning) were at Cape Canaveral for shoot. Here are five whose job was done when missile left home plant. But they shared elation of other Tiger teammates, as well as that of all GD/Astro folk who contributed. From left, C. D. Fikes, K. G. Kover, R. S. Pappa, T. N. Bennett, J. Cooney.



LOOKING BOTH WAYS—In center is Florida "memoir," photo of team at Cape Canaveral, many of them veterans of program, who installed Azusa Mark II. Radomes are in background. At right are Jim Crooks and Bob Weaver, co-inventors

of Azusa system, with Weaver holding latest model of transponder. In foreground are others which figured in system's evolution. In photo at left, R. J. Jacobs, Sam Combs, M. M. Cox, Azusa program, discuss bright future of tracking systems.



BLITZ TEAM—Frank Merritt of GD/Pomona (Dept. 6) is organizing "blitz team" of ham radio operators in Los Angeles area to provide instant communications during emergencies. Team effort is part of Amateur Radio Emergency Corps program. Merritt is section emergency coordinator.

Veteran Bowman Hasenbeck Named Archery Commissioner

H. W. Hasenbeck, section head—advanced techniques group, has been appointed as second archery commissioner at GD/Pomona.

Hasenbeck and his younger son, Gene, have been active members of the Pomona Archery Club for the past four years. Both are also members of California Bowhunters Association, National Field Archers and Valley Bowhunters.

Hal first became interested in the sport in 1927, making his own equipment and shooting target archery for two years. Later when his older son, Eric, learned to shoot he renewed his interest in the sport. He and his son became active in CRA Archery Club after Hal joined GD/Convair in 1949. At the age of 11 (in 1952) the son became San Diego County Junior Champion.

After his transfer to GD/Pomona in 1952, Hasenbeck again put away his bow until 1959 when his younger son was eight years old. By this time archery had become an established PRA activity and father and son began attending all regular shoots.

A registered professional engineer, Hal is also a senior member of Institute of Electrical and Electronic Engineers. Prior to joining General Dynamics he was chief engineer of radio station KFSD, San Diego; extension course instructor of Industrial

CHESS CLUB SEEKS MORE MEMBERS

New members are being sought by GD/Pomona Chess Club, announced Commissioner Lars Enequist. Club meets every Tuesday evening in PRA Clubhouse. Doors open at 6 p.m. and instruction is given until 6:30 p.m. when open play begins. For information call ext. 8157/58.

Electronics at UCLA; and supervisor of engineering laboratory, design specialist and assistant missile project engineer at Ryan Aeronautical Company, San Diego.

★ ★ ★

POMONA SON WINS

Gene Hasenbeck, son of Archery Commissioner Hal Hasenbeck, won first place in his division at annual King Arthur Shoot May 19 in San Diego, against more than 20 archers.

Pomona Son Gets Eagle Scout Award

Philip Barrett, son of P. A. Barrett (Dept. 6, GD/Pomona) and Mrs. Barrett, received his Eagle Scout Award at an honor dinner on April 29.

Barrett, an eighth grader at St. Joseph's Elementary School, Pomona, is the second son in the family to receive Scouting's highest award. His older brother, Tom, became an Eagle Scout in 1960.

Philip has an unbroken attendance record in his six years of scouting and has held every troop office. He is presently scribe of Troop 4.

In 1961 he was given the Ad Altare Dei Award, the highest church award for Catholic Boy Scouts.

Sno Ball Climaxes Ski Club Season

GD/Pomona Ski Club's last seasonal event was the Sno Ball May 18 at Royal Tahitian Restaurant, Ontario.

Joe Camasta and Kay Winburn were named most improved skiers. Carol DeRonde will be club queen during 1963-64.

New club president will be Rob Collins, with Dave Williams, first vice president, Roger Paine, second vice president, Charlotte Bringle, treasurer, Kathie Brewer, secretary.

Radio Corps Will Provide Fast Contacts

Amateur Radio Emergency Corps members in the Los Angeles area are forming a "blitz" team to provide instant communications in any emergency.

Frank Merritt of General Dynamics/Pomona (Dept. 6), section emergency coordinator for the Los Angeles section, said the "blitz team" will be composed of 25-50 vehicles so located that communications assistance can be provided in any location within a few minutes.

"All services are furnished free," Merritt said. "We will give assistance to organizations or individuals—both for emergencies and non-emergencies. During disasters, services of the team will be available to augment fire or police communications."

Los Angeles section covers the area from the Pacific Ocean to Arizona border and from Long Beach to mountains north of Los Angeles. The section has approximately 400 ham radio operators who are members of Amateur Radio Emergency Corps.

Merritt has both two-meter transmitter and receiver and a 20-meter single sideband transceiver mounted in his vehicle, complete with portable gasoline generator to provide power for the stations. He has a radio amateur license (K6YCX) and also has a first class radio-telephone license.

Glenda Gunn Urges 'Civic Education'

Five judges, 20 lawyers and 39 high school students listened to Glenda Gunn, daughter of A. V. Gunn (design engineer at GD/Pomona) and Mrs. Gunn, at local observance of Law Day, USA.

Glenda, a senior at Pomona High School, addressed the assembly held May 1 in Superior Court and urged them to pursue two never-ending duties, "civic education and civic responsibility."

A student of American government, Glenda believes that the general public is apathetic about elections and inadequately informed. She charged that it is everyone's duty to be informed on issues affecting the public interest.

Law Day in the U. S. is a new celebration that is the American counterpart of the old May Day celebrated throughout Europe.

Lee Burch Elected Ham Club President

Serving as president of GD/Pomona Ham Club for 1963-64 will be Lee Burch (Dept. 6).

Other officers elected May 8 were Larry Frazier (Dept. 72), vice president; Frank Schoble (Dept. 6), secretary; and Ray Borgman (Dept. 6), treasurer.

Commissioner W. T. Barnes reports approximately 80 members in the group.

Next meeting will be June 12 with Tom O'Donohue of Los Angeles Sheriff's Dept. as speaker.



TOP TOASTMASTERS—Directing the activities of seven clubs in Toastmasters Area B-5 will be l. to r: Randy Wills, area governor; Rick Little, educational assistant area governor; Don Long, secretary-treasurer; and Bill Ward, administrative assistant area governor. All are Dept. 6, GD/Pomona.

Lou Nitti and GD/Pomona Daughter Design and Illustrate Show Program

Printed program for 1963 Escalon Charity Horse Show held May 5 was largely the work of GD/Pomona's Lou Nitti Jr. and Kathy Hyde, daughter of Mrs. Carol H. Adamson (Dept. 6).

Nitti (Dept. 21) designed the cover and also did most of the layout work on the program while Kathy's contribution was four sketches of Arabian and Appaloosa horses and colts.

Kathy, an eighth-grader at Vernon Junior High, Montclair, also attends art classes at Scripps College during the summer.

The horse show was a benefit

to raise money for Escalon, Inc., a non-profit organization dedicated to helping children with emotional difficulties.

Doubles Net Tourney Starting Tomorrow

Annual plant doubles tennis tournament will be played on PRA courts tomorrow (Memorial Day) beginning at 9 a.m., announced Commissioner Ed Powers.

At least 20 teams will compete. Defending champions are Chuck and Bill Anderson.



ON DISPLAY—Redi-Bo, Junior Achievement company sponsored by General Dynamics/Pomona Management Club, marketed a new product—key chains. A. W. Nigliazzo, coordinator, R. C. Woodruff, production adviser, and S. R. Sutton, management adviser, take look at display.

General Electric Gets F-111 Subsystem Work

Orders for approximately \$14 million in subsystems for Air Force/Navy F-111 supersonic tactical fighter planes have been announced by General Electric Co.

Three contracts — for attack radars, for flight control systems, and for portions of the armament system — were awarded by GD/Fort Worth, prime contractor for the revolutionary fighter.

GE said that the radar will be supplied by the company's Utica, N. Y., plant. The flight control systems and armament systems work will be done at its Johnson City, N. Y., plant.

The radar contract involves more than \$8½ million, the flight controls approximately \$4 million, and the armament system work about \$1.4 million.

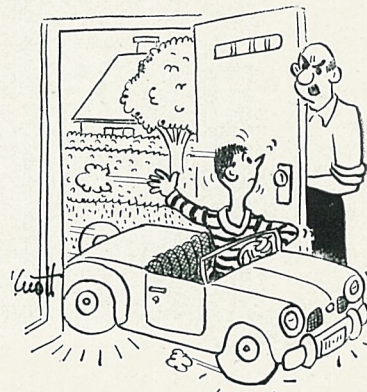
The flight control system will help give the pilot positive control of the unique variable sweep wing craft throughout its wide performance range — from slow loitering cruise to speeds in the neighborhood of two and one-half times the speed of sound.

The armament work will include development of an optical sight and missile launch computer for delivery of the bi-service aircraft weapons, which may be

either nuclear or conventional.

The radar will include latest techniques to increase its range and to improve its "picture quality" as compared to present-day radars of this type.

The F-111, as an advanced high and low speed, high and low altitude performer, will be able to carry out a wide variety of Air Force and Navy missions that now require numerous different combat-type aircraft. The F-111, among other things, is designed to operate both from Navy aircraft carrier decks, and from primitive—short and rough—Air Force airstrips.



"Next time—just honk for her at the curb."



RETIRING—At left A. I. Wurzler, quality change control board representative, receives plaque from A. C. McMaster, director of quality control, on retirement. In photo at right Homer Robison of materials department is honored by associates at party on eve of his retirement. From left: P. G. Powers, Jack Cranston, H. R. Arbaugh, R. D. Crawford, Robison, F. G. Mentlick, W. F. Larkin.



Sports & Recreation

Winter Bowling Action Ends With 'Gutter Dusters' Winning

Final PRA winter bowling league tournament was held May 13 at Bowlum, Montclair, for Monday 6:15 p.m. Mixed Handicap League bowlers.

Team event was won by "Gutter Dusters" with 2,775 series. Members were: Jackie Blake, JoAnn Flint, Jack Creamer, Jim Wampler and Mitch Leprich.

Second place winners were "In-consistents" with 2,734 series. Members were: Shirley Inks, Millie Beran, Dale Herold, Eldon Beran and Gene Larson.

"Beam Riders" with 2,695 series were third. Marcia Bateman, Nita Garcia, Don Nelson, Van Bateman and Lou English were members.

Women's Singles was won by Jackie Blake with 639 series. Joan Howard was second with 588 series and Nita Garcia third with 574.

Don Nelson took first place in Men's Singles with 639 series. In second place was Mitch Leprich with 602. Van Bateman was third at 581.

In Mixed Doubles Jackie Blake and Jack Creamer won with 1,212 series. Nita Garcia and Van Bateman were second with 1,161. Third was taken by Donna Diggs and John Ditzman with 1,148.

Don Nelson and Cliff Clark teamed to win Men's Doubles with 1,168 series. Mitch Leprich and Jim Wampler came in second at 1,110 and third place went to Eldon Beran and Gene Larson, 1,087.

Condors Lead Twilight Loop

Condors, managed by Bill Miliken, are leading PRA Twilight Softball League with 2-0 record. In second place is Joe Molamphy's Vultures with a 3-1 mark.

Four teams were tied for third as of May 20. They are Structural Dynamics, Mauler, Physics and Guidance—all with 2-1 records.

Scores, as reported by Commissioner Ed Glasson: May 7, Guidance 9 and Aerodynamics 4; May 8, Structural Dynamics 9 and Flight Analysis 4; May 9, Condors 16 and Dynamics 11; May 10, Stress 9 and Vultures 37; May 13, Stress 8 and Aerodynamics 23; May 14, Flight Analysis 7 and Vultures 18; May 15, Dynamics 18 and Physics 17; May 16, Mauler 10 and Guidance 8; May 17, postponed; May 20, Vultures 20 and Structural Dynamics 5.

★★★ NITE HAWKS, DEPT. 73 TIED FOR FIRST

Nite Hawks and Dept. 73 teams, with 2-0 records, were tied for first place in PRA Night Softball League as of May 20.

Tied for third spot are Contracts, Computer Lab and Sustaining teams.

Scores: May 8, Nite Hawks 12 and Mauler Guidance 6; May 9, Redeye Guidance 5 and Computer Lab 17; May 13, Dept. 53 Raiders 13 and Nite Hawks 21; May 14, Dept. 73 10 and Redeye Guidance 9; May 15, Sustaining 5 and Computer Lab 4; May 16, Contracts 9 and Mauler Guidance 8; May 20, Mauler Guidance 21 and Sustaining 9.

★★★ Summer Bowl Results Listed

Results of first two weeks of PRA summer bowling at GD/Pomona have been announced by Tex Munson, commissioner.

High scratch series of 882 for five games was rolled by Ken Lake while Marvin Green had high scratch game of 239.

Harold Hesche's 692 and Doreen Mitchell's 645 were high handicap series. Bob Malsberger and Manny Flata tied for high handicap game with 245.

Following is complete list of gift certificate winners for the period ending May 16:

Monday 6:15 p.m. Men's Scratch Trio (5 games), May 6, Bill Arrechea, 813 scratch series; Al Thompson and Darrel Farrar (tied), 230 scratch game; May 13, Ken Lake, 882 scratch series; Marvin Green, 239 scratch game.

Wednesday 6:15 p.m. Mixed Handicap League, May 8, Mary Ellen Durr, 599 handicap series; Gene Adams, 617 handicap series; May 15, Doreen Mitchell, 645 handicap series; George Thiel, 686 handicap series.

Wednesday 6:15 p.m. Men's Handicap League, May 8, Andy Bessette, 629 handicap series; Manny Flata, 245 handicap game; May 15, Darrel Johnson, 625 handicap series; Bob Malsberger, 245 handicap game.

Thursday 8 p.m. Mixed Handicap Foursome League, May 9, Mary Elliott, 586 handicap series; Harold Hesche, 692 handicap series; May 16, Linda Cosby, 627 handicap series; Frank Clabaugh, 629 handicap series.

Six Tie For First In April Safety

April safety contest at GD/Pomona resulted in a six-way tie for first place.

Winning departments—all with perfect scores—were experimental factory, tool manufacturing, sheet metal, sub-assembly, test equipment manufacturing and maintenance and final assembly and test.



LUCKY—These were prize winners at GD/Pomona Management Club spring dance May 11. From left: Nancy Bush (guest winner of beef quarter), Mr. and Mrs. J. G. Duncan, Dept. 7 (who also won beef), Betty Mae Nesbitt, wife of Dept. 21's G. A. Nesbitt (who won mink stole), and Elizabeth Thorp with her husband, David Thorp, Dept. 13. She won Las Vegas trip.

PRA Calendar

(GD/Pomona Recreation Association sponsors 21 activities for employees. For information call PRA office, ext. 208. All meetings listed below held in PRA Clubhouse, unless otherwise noted.)

★★★
ARCHERY—Shoot, 8 a.m., June 8, PRA range near heliport.

BALLROOM DANCING—Last class in series of ballroom lessons for beginners, 8 p.m., tomorrow night (Thursday).

CERAMICS—Instruction offered every Tuesday and Thursday nights from 7 to 10 p.m., Ceramics Workshop, PRA Clubhouse.

CHESS CLUB—Open play meetings, 6:30 p.m., June 3 and 10. Instruction given at 6 p.m., every Tuesday.

HAM RADIO CLUB—First formal meeting, 7:30 p.m., June 12.

HIGHLANDERS—Band practices 7:30 p.m., every Wednesday.

ICE SKATING—Individual and group instruction offered 6:30 p.m., every Wednesday, Ice Bowl, 1225 W. Holt Blvd., Ontario.

ROCKHOUNDS—Regular monthly potluck dinner meeting, 6:30 p.m., June 10. Lapidary workshop open 7 to 10 p.m., every Tuesday, Wednesday and Thursday. Instruction given.

SQUARE DANCING—Fifth Friday dance (live music), 8 p.m., May 31. Regular first Friday dance, 8 p.m., June 7.

TENNIS—Annual Plant Doubles Championship, 9 a.m., tomorrow (Memorial Day), PRA courts.

Archers Plan 'Work Party'

GD/Pomona Archery Club members will hold a "work party" tomorrow (Memorial Day) beginning at 8 a.m. on PRA archery range near heliport.

Archers will move some targets to increase safety and to prepare range for national approval.

Commissioner Elmer Dahlstrom announced that the tournament scheduled June 8 is the last one in which archers may qualify for the first six months of this year.

Winners of May 11 tournament were: Hal Hasenbeck (Dept. 6), Dan Diaz (Dept. 27), Janice Wohlfert, wife of Donald Wohlfert (Dept. 6), Mary Jane Luther, daughter of Floyd Luther (Dept. 27) and Jim Gottier, son of Bob Gottier (Dept. 7).

Camera Club Picks Quarterly Winners

First Quarterly Competition winners were announced by GD/Pomona Camera Club.

In color division G. M. Pierce won first and second; M. F. Stoughton took third and honorable mention; and Dana Reed and D. G. Machen received honorable mention.

In black and white Ele Thorogood won first place and honorable mention; S. R. Thorogood, second place; Paul Jackson, third; F. C. Thomas and D. G. Machen, honorable mention.



PRIZE WINNERS—Lucky ticket holders at PRA Spring Dance on April 27 pose with their loot. L. to r.: Leonard Stonich (guest), Elsie Grigg, Harvey N. Weaver, Joyce Weaver, George Wesley, R. L. Keaton, Luke Nestle, K. L. Winslow (guest), E. R. Elston Jr. (guest), Donna Mae Diggs, Angie Carpentiero (guest), Harry Howell, Mrs. E. R. Elston.

First Round of Annual PRA Golf Set for Los Serranos June 9

Entries are being accepted for 10th Annual PRA Plant Championship Golf Tournament, announced Commissioner Wes Lannier.

Fee of \$6 includes green fees, prizes, and dinners for winner

and runner-up in each flight.

The tourney will be match play at scratch by flights. (Lannier guaranteed as many flights as necessary to accommodate all entrants.)

First round will be played June 9 at Los Serranos Golf Course. Each subsequent match will be scheduled at players' option.

Players may sign up with any of the following: Bldg. 4—Adam Grik, ext. 4252 or Jeanne Wood, ext. 5122/5211; Bldg. 2—Wes Lannier, ext. 3256 or "Andy" Anderson, ext. 3274; Bldg. 1—Chuck Conger, ext. 5179 or Herb Naish, ext. 208.

Ramirez' 72 Wins in Golf

Roman Ramirez (Dept. 6) was low gross winner in PRA's golf tournament May 19 at El Rancho Verde, Rialto. Ramirez shot a 72, four strokes under runner-up Bob Kruger (Dept. 6). Adam Grik (Dept. 6) was third with 80.

Low net winners in first flight were first, Don Whynott (Dept. 3), 77-8-69, and second, Jim Densmore (Dept. 4), 83-9-74.

Second Flight—gross: Ralph Thatcher (Dept. 14), 81; Roger Arbaugh (Dept. 4), 85; T. R. Worthy (Dept. 3), 86. Net: C. A. Giordano (Dept. 13), 82-17-65; E. E. McGuire (Dept. 27), 86-13-73.

Third Flight—gross: Wes Pierce (Dept. 25), 85; C. D. Anderson (Dept. 22), 91; W. A. Kohls (Dept. 13), 92; D. Walker (BUWEPS), 94. Net: G. E. Alston (Dept. 22), 89-19-70; Wes Sweitzer (Dept. 4), 93-21-72.

Fourth Flight—gross: Gwen Smith (Dept. 31), 88; S. L. Burt (Dept. 13), 96; B. Felton (BUWEPS), 97. Net: T. W. Pyle (Dept. 6), 94-26-68; Rex Warden (Dept. 12), 98-23-75.

Fifth Flight—gross: F. W. Burke (Dept. 5), 97; Samuel Neilson (Dept. 31), 104; Virginia E. Anderson (Dept. 3), 107. Net: Jeanne Wood (Dept. 6), 99-33-66; W. J. Farrow (Dept. 51), 110-35-75.

WINNERS CHOSEN BY STAMP CLUB

K. H. Nelson (Dept. 6) won the May theme contest conducted by GD/Pomona Stamp Club. Second went to Christine Jensen, daughter of W. B. Jensen (Dept. 6).

★★★ Women's Golf Play Continues

Women golfers at GD/Pomona have completed four matches in Twilight League play.

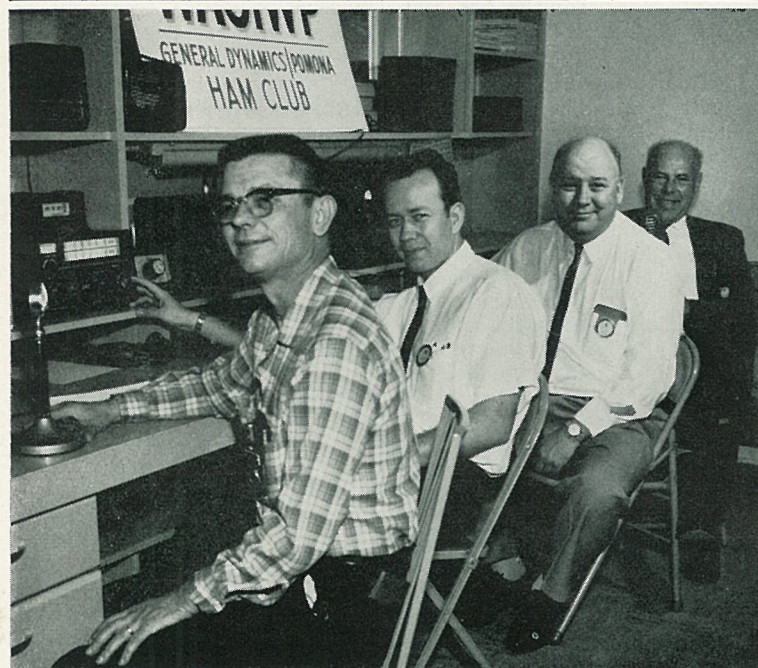
Lillian Sweitzer, wife of Wes Sweitzer (Dept. 4) and Virginia Anderson (Dept. 3) lead Monday night play at Lomitas.

Scores for the third and fourth matches were: May 13, Lillian Sweitzer and Virginia Anderson, 74 points; Eleanor Bennett and Jean Nickerson, 64; Velda Bomar and Millie Jennings, 63; Marge Lawrence and Ann Hatch, 60; Margaret Daley and Margaret Giles, 53; Louise Alston and Helene Kimberly, 46; Jimmie Grace and Agnes Samuelson, 36.

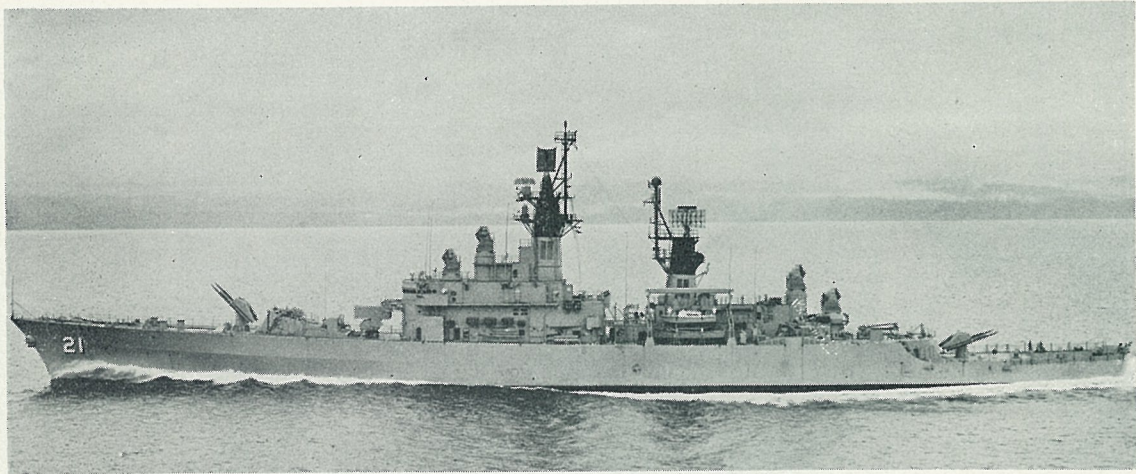
May 20, Lillian Sweitzer and Virginia Anderson, 90 points; Eleanor Bennett and Jean Nickerson, 84; Velda Bomar and Millie Jennings, 83; Marge Lawrence and Ann Hatch, 76; Louise Alston and Helene Kimberly, 70; Margaret Daley and Margaret Giles, 65; Jimmie Grace and Agnes Samuelson, 60.

COIN EXHIBIT ENTRIES SOUGHT

Entry blanks for exhibiting in annual Pomona Valley Coin-A-Rama June 8-9 may be obtained from Ralph Bayer, GD/Pomona Coin Club commissioner.



ON THE AIR—Announcing the reactivation of GD/Pomona Ham Club are newly elected officers l. to r.: Lee Burch, president; Larry Frazier, vice president; Frank Schoble, secretary; and Ray Borgman, treasurer.



NAVY'S NEWEST — USS Gridley (DLG-21), armed with GD/Pomona-built Advanced Terrier missiles fore and aft, is shown during sea trials. C. D. Perrine Jr., executive vice president, represented company at commissioning ceremonies Saturday (May 25) at Puget Sound Naval Shipyard, Bremerton, Wash.

DYNAMICS RECEIVES SILVER MEDALLION AS AVIATION GIANT

General Dynamics was among 40 giants of the aviation industry to receive silver medallions from Aviation Space Writers Association for having served the industry for over 25 years.

Frank W. Davis, GD/Fort Worth president, accepted the award on behalf of Roger Lewis, Dynamics' president, at a banquet May 21 at Adolphus Hotel in Dallas.

The nostalgic tribute to aerospace included a slide collection showing aircraft manufactured in 1938, the year AWA was established.

Columnist Bob Considine was master of ceremonies at the banquet.

GD/Pomona's Sinks Addresses Institute

G. H. Sinks Jr., General Dynamics/Pomona manager of employment, spoke April 26 at a spring institute of International Association of Personnel in Employment Security held in Pomona. The institute was cosponsored by University of California at Los Angeles.

Theme of the two-day institute, attended by 400 persons from 60 state employment offices in Southern California, was "Place of Employment Services in the Community." Included in discussions were representatives of labor, industry and education.

Dynamics Exhibit Sent To Paris For Air Show

General Dynamics products will have a prominent place next week when the 25th Paris International Air Show opens (June 7-16) at Le Bourget airport.

Demonstrations of swing-tail cargo loading using a Canadair-built CL-44 turboprop transport will be a feature. Another Canadair airplane, the CL-41R advanced systems trainer, will be on display and GD/Convair-built F-106s also are scheduled to take part.

Among exhibits will be one from GD/Pomona, marking that division's first participation in the show.

Both Tartar and Mauler will be featured. A booth, with 30-foot front, will occupy an area covering 60 square meters in the missile section of the show.

Shown will be a Tartar display

Newest Navy Warship Named For 'Fire When Ready' Gridley

The guided missile frigate Gridley (DLG-21), third ship of the fleet to be named in honor of Capt. Charles V. Gridley, USN, was commissioned Saturday (May 25) at the Puget Sound Naval Shipyard in Bremerton, Wash.

The Gridley is the 14th Advanced Terrier-armed frigate to be commissioned. General Dynamics/Pomona-built Advanced Terrier missiles also arm six cruisers and two carriers.

GD/Pomona was represented at the commissioning ceremony by C. D. Perrine Jr., executive vice president. Perrine, on behalf of the company, presented the ship with a set of ceremonial quarterdeck stanchions, modeled after the Advanced Terrier missile.

Captain Gridley, for whom the ship is named, distinguished himself "beyond all praise" during the Battle of Mobile Bay on Aug. 5, 1864, shortly after his graduation from the Naval Academy. Serving on board the steam sloop-of-war Oneida off Mobile, Ala., he had charge of the master's division and assisted in conning the ship from the topgallant fore-castle during the battle.

However, Captain Gridley was to gain everlasting renown later at Manila Bay as commanding officer of the protected cruiser Olympia, flagship of Asiatic Squadron. Adm. George Dewey's squadron stole past the batteries on Corregidor and arrived off Manila Bay near daybreak on May 1, 1898.

and a 1/2-scale model of Mauler weapon system. The Mauler model has a movable launching unit and simulates missile firings.

Tartar is the compact supersonic anti-aircraft missile produced by GD/Pomona for the U. S. Navy. The Navy announced last November that Tartar missiles initially will serve at least four other navies of the Free World—Italy, France, Japan and Australia.

Mauler is the air defense guided missile system currently being developed at GD/Pomona for the U. S. Army. Self-contained Mauler is designed for forward area air defense with capability against high performance aircraft and short range missiles of the type likely to be encountered on future battlefields.

Admiral Dewey in his autobiography recounts: "At 5:40 when we were within a distance of 5,000 yards, I turned to Captain Gridley and said, 'You may fire when you are ready, Gridley.'"

Captain Gridley personally conducted the gunfire throughout the battle which ended in destruction of Spain's Philippine Fleet. He was on his way home when he died at Kobe, Japan, June 5, 1898.

GD/E Exhibits S-C Printer

General Dynamics/Electronics-San Diego demonstrated its S-C 3070 Electronic Printer at the Spring Joint Computer Conference in Detroit, Mich., last week.

The S-C 3070, designed for office, communications, or computer centers, is capable of printing a character at a time at speeds up to 5,000 words per minute.

Utilizing an electrostatic process, the non-impact printer produces legible permanent copy which can be used as a litho master to produce multiple copies for office distribution. The printer operates on-line or off-line with digital computer systems and is compatible with most available data transmission terminals.

Representing GD/Electronics at the May 21-23 conference were N. E. Frawley, industrial requirements assistant manager; D. O. Brending and H. G. Cooper, requirements representative; S. R. Viejo of requirements research; J. H. Gurley, manager Army requirements; Ron McClure, senior field service representative; Payne Johnson, manager of communication, and Helen Wood of communication.

Manual Published By Convair Editor

"Programmed Instruction — Training Manual" has just been published by J. D. Meacham, GD/Convair publications editor, after more than a year of research.

The manual is pointed directly to the "workers" in the field, such as instructors, programmers, editors, training directors, technical writers.

The 230-page loose-leaf book was printed in GD/Convair graphic reproduction and is available from J. Ravin Publications, 4215 Calavo Dr., La Mesa, Calif.

Ex-Patrol Boat Serves In GD/Astro Research

Sound and the sea are subjects of continuing research carried on by General Dynamics/Astronautics in Southern California coastal waters.

Heart of the research effort is "Rorqual," an 83-foot floating laboratory, originally a World War II Coast Guard patrol boat, later converted for use as a private yacht.

After its acquisition by GD/Astro, the boat was fitted with specialized electronic equipment (in addition to extensive navigational and communication gear, radar and depth sounder already on board).

Research utilizing Rorqual is aimed at acquiring data on transmission of oceanographic problems associated with underwater communication. Studies are related to work on advanced missile system programs now under way at GD/Astro under Project Engineer Kerry E. Coughlin, Dept. 580-4.

A small boat, carried aboard Rorqual, is launched to serve as a platform and recording station for communication equipment which is lowered into the sea for tests at various depths under varied conditions. At the same time, associated equipment is lowered from Rorqual.

Rorqual is "home ported" at GD/Convair's ramp facility on San Diego Bay, and when under

way is commanded by Coughlin or by Dr. C. G. McIlwraith, in charge of communication studies. R. E. Johnson normally handles electronic operations aboard ship.

Wynne Bowen serves as "chief of the boat"; Stan Hoyceki is engineer; and G. R. Cooke and W. W. Bacon Jr., round out the crew.

Rorqual's operations are directly supported by a shore-based electronics lab housed in a van at the ramp facility. Here, equipment is calibrated and repaired, and new test devices are constructed to meet growing program requirements.

Leon Resnick handles these related operations ashore, while Ben Swett serves as design engineer for special devices used aboard Rorqual.

George Brolaski, project operations manager, arranges for production of much of this specialized equipment in GD/Astro's main plant tooling department.

In the past, Rorqual has gone to sea for less than 24 hours at a time, although research operations of up to four days' duration and ranging from Dana Point southward to the international border are planned for the near future.

The boat is capable of sustained operations up to 2,000 miles round-trip with a crew of 10 on board.



ASTRO SAILORS — William Bacon and Wynne Bowen, members of Rorqual crew, are in foreground, as GD/Astro's oceanographic research vessel lies off seaplane ramp facility on San Diego Bay.

New Centaur Lighter Seen To Carry Heavier Payloads

Ozone difluoride, a substance whose maximum production is now one-third ounce per hour, is under study as a mixture with liquid oxygen to ignite such high-energy space vehicles as General Dynamics/Astronautics' Centaur.

Centaur employs an electrical ignition system because its propellants, liquid hydrogen and liquid oxygen will not ignite on contact.

National Aeronautics and Space Administration's Lewis Research Center which guides the Centaur program has issued a contract for further study on mixing liquid oxygen with ozone difluoride. Preliminary tests show that a tiny quantity of the latter will cause liquid oxygen to ignite immediately on contacting liquid hydrogen. Extensive testing of this phenomenon is currently in progress.

(At General Dynamics/Astronautics technicians in the propulsion systems design group of engineering are looking into this field along with others related to high-energy propulsion.)

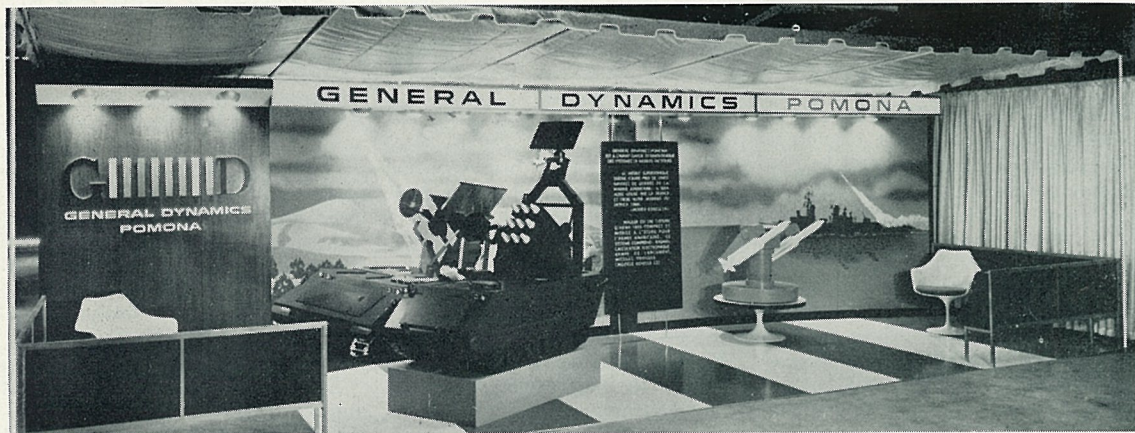
Lewis Center's Donald L. Nored summarized work with ozone difluoride and its potential with that of hydrogen/oxygen.

He said that, using the Atlas-Centaur rocket vehicle as a boost-

er, fluorine oxidizer in an upper-stage solar probe could carry a 25 per cent heavier payload than the oxidizer could manage. The payload capacity of a Mars orbit mission would be similarly increased with vehicles using fluorine.

Astro Chief Counsel On National Panel

H. Cushman Dow, GD/Astronautics chief counsel, has been named to the national panel, American Arbitration Association.



DYNAMIC DISPLAY — This GD/Pomona exhibit will be on display in Paris next week, offering a capsule introduction to such products as Terrier, Tartar and Mauler.



"Well today I learned that your arithmetic is lousy, too."



HORNE HONORED—C. F. Horne, General Dynamics/Pomona president, was presented a life membership in Armed Forces Communications and Electronics Association at recent meeting of Greater Los Angeles Chapter. Joseph H. Goodrich, right, of Pacific Telephone and Telegraph Co., made presentation.

Mauler Weapon System Display Seen by 5,000

An estimated 5,000 persons visited the General Dynamics/Pomona Mauler weapon system display earlier this month at the annual meeting of the Association of the U. S. Army in Washington, D. C.

The display featured a 1/3-scale working model of the Mauler weapon system. Visitors were permitted to operate the Mauler model's movable launching unit and simulate missile firings against enemy "targets."

Among high-ranking visitors who operated the Mauler model were: Lt. Gen. John P. Daley, commanding general of Army combat development command; Lt. Gen. Dwight E. Beach, Army chief of research and development; Lt. Gen. Frank S. Besson Jr., commanding general of the Army material command, and Wm. F. Schaub, Assisting Secretary of the Army.

Roger Lewis, president of General Dynamics Corporation, and C. F. Horne, General Dynamics/

Pomona president, attended. Jack Sloan of the president's office, D. D. Loos of customer requirements, and J. F. Irwin, staff engineer—Army, manned the booth.

Mgt. Club Treasurer Post Won by Wendt

L. C. Wendt, assistant supervisor timekeeping (Dept. 13), was elected treasurer of General Dynamics/Pomona Management Club in balloting earlier this month. He will serve until June 1, 1963, filling out the unexpired term of T. W. Moffett, who resigned.

Announcement of Wendt's election was made at the Oct. 12 meeting which featured professional entertainment. Dr. W. H. Pickering, director, Jet Propulsion Laboratory, California Institute of Technology, Pasadena, will speak at the November meeting.

Enrollment In After-Hours Classes Rising

More than 18 per cent of all operations and quality control departments personnel at General Dynamics/Pomona are currently enrolled in after-hours educational courses, C. E. McAvoy, operations training representative, has reported.

A survey showed 441 employees from operations and quality control departments enrolled in local schools and universities. The total does not include the many more who are enrolled in in-plant training courses.

The 441 figure includes 164 employees enrolled in the Industrial Supervision Certificate Program developed jointly by junior colleges and industry throughout California for persons who have supervisory responsibilities and others who wish to prepare for such positions.

"Eight courses are required for a Certificate in Industrial Supervision," McAvoy said. "The program can be completed in two to four years."

Number of GD/Pomona employees enrolled in the Industrial Supervision Certificate Program at various schools are: Mt. San Antonio College, 106; Chaffey College, 47; Citrus College, 7; Riverside City College, 2; Fullerton City College, 1, and San Bernardino Valley College, 1.

Twenty employees of operations and quality control departments are enrolled in the Business Management Certificate Program of the University of California at Los Angeles. This certificate program was organized to meet need for middle-management training of technical personnel in scientific and industrial companies.

GD/Pomona is one of the participating companies in the business management program and aided in establishing content of courses. The series of courses is designed to present a knowledge of business fundamentals and an appreciation of the broader problems in operation and management. Certificates are awarded upon successful completion of six 3-unit courses. Students are encouraged to enroll in only one course a semester.

Idea For Oven Returns \$430 To Dept. 25 Man

Product improvement and annual estimated savings of \$3,801 are expected from a suggestion made by J. O. Noorlander (Dept. 25). The suggestion eliminates use of individual electric heaters for polyurethane molds and substitutes use of an infrared oven.

Noorlander will receive a \$430 General Dynamics/Pomona Employee Suggestion Award.

Previously, each mold—and there are 49 different types—had an individual electric heater to speed curing time of the potting material. Heaters and thermostats required a large amount of maintenance. Heating units had to be recalibrated each 8 hours.

Calibration time and excessive maintenance are eliminated by placing the molds in an infrared oven. Better control of curing is possible by using the oven. A history of time versus temperature is permanently recorded.

All GD/Pomona employees are urged to turn their ideas on time and cost-cutting methods into cash through the ES program.



RELUCTANT MODEL — Gina Sangermano, daughter of Louis Sangermano (Dept. 22), is not too sure she wants to walk across stage alone as she practices for her stint as fashion model. Gina will be youngest model in this year's show.

Annual Fashion Show Tickets On Sale Today

Tickets go on sale today (Wednesday) for the annual fashion show sponsored by Women's Activities at GD/Pomona.

Available at employee services (Bldg. 1), engineering personnel (Bldg. 4) or from the models, tickets for the Nov. 10 show are \$2.25 and include a buffet luncheon.

The show will be staged in the Tahitian Room of the Royal Tahitian Restaurant on the Whispering Lakes Golf Course, Ontario. Surrounded by 250 acres of tropical plants and lagoons, the Royal Tahitian is the world's largest Polynesian restaurant.

Commissioner Jackie Daoust has announced that the buffet luncheon will be served at 12:30 p.m. and the fashion show will start at 1:30 p.m. Clothing for the show will be supplied by Fallis' of Ontario and glamorous holiday fashions will be featured. Modeling will be: Lynda Bedford (Dept. 51), Mona Dahlstrom, wife of Elmer Dahlstrom (Dept. 21), Joann DiTroia (Dept. 6), Joy Freese, wife of P. G. Freese (Dept. 6), Pauline Gibson (Dept. 31), Maxine Hitt (Dept. 27), Julie Jackson (Dept. 6), Pat Miller (Dept. 63), Jackie Rhodes (Dept. 7), Carol Sowers (Dept. 3), Connie Timmer (Dept. 5). Juvenile models will be: Leslie (Continued on Page 2)

Terrier Ship Helping Needy In Far East

The USS Topeka (CLG-8), armed with General Dynamics/Pomona-built Advanced Terrier missiles, is now in the Far East serving as a unit of the United States Navy's Seventh Fleet.

As she began her cruise to the Western Pacific, Topeka was carrying more than 600 cubic feet of clothing and medical supplies to deliver to the needy overseas during goodwill visits to foreign ports.

However, crewmen of Topeka are also extremely conscious of the needy at home, according to a recent Navy release.

In the past year, crewmen of the guided missile cruiser have donated more than \$11,000 to charitable causes. This sum averages more than \$14 per man.

Organizations receiving donations from Topeka include the Navy Relief Fund, the Navy's own charity; the Community Chest; the American Red Cross and the Billy Bradley Jr. Fund which received more than \$1,000 to help pay for a series of eye operations for a boy in Arkansas who had been blinded by lightning. Young Billy was also made an honorary crew member of the ship that is helping him to see again.

Topeka arrived in Osaka, Japan, at 8 o'clock Oct. 10 and by 4 o'clock that afternoon crewmen had donated 131 pints of blood to the Osaka Blood Bank for use in the Osaka Red Cross Hospital. This voluntary blood donating program was initiated when crew members heard of a critical shortage and their action is credited with saving the life of a Japanese mother.

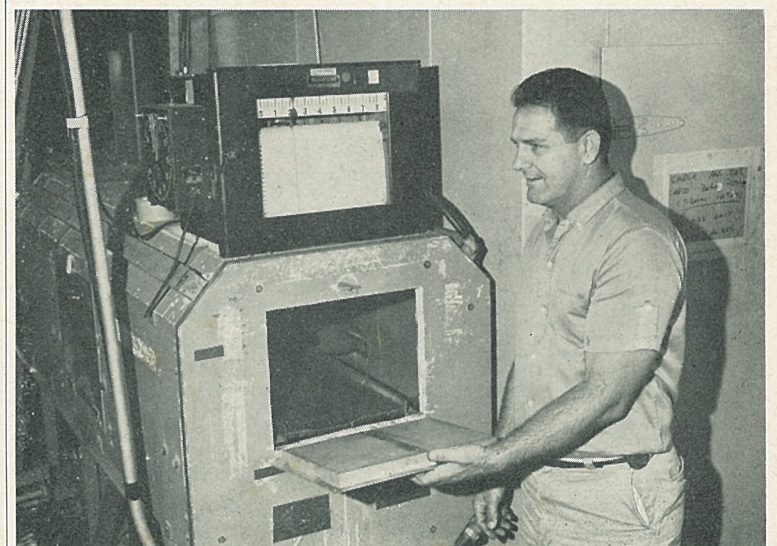
Early the next morning, Mrs. Kazuko Kobayashi, 41, gave birth to her first child, a son, and required Rh negative whole blood immediately. According to Dr. Fusako Makino, leading Osaka gynecologist, Mrs. Kobayashi's life was saved because the only blood of this rare type available had been donated by the Topeka the afternoon before.

On Oct. 11 Topeka crew members donated another 141 pints of blood for a total of 272 pints. Dr. Ryoichi Naito, medical and executive director of the Blood Plasma Corporation of Japan, said, "It is through your sacrifice and charity that hundreds of Japanese lives will be saved."

Topeka, flagship of RAdm. W. H. Baumberger, Commander Cruiser Destroyer Flotilla Three, is commanded by Capt. R. W. Paine Jr. and is home ported in Long Beach, Calif.



MAULER ON DISPLAY—Lt. Gen. John P. Daley, commanding general of Army Combat Development Command, visited GD/Pomona display earlier this month at annual meeting of Association of the U. S. Army in Washington, D.C. GD/Pomona's representative is D. D. Loos (Dept. 12). Booth featured 1/3-scale model of Mauler weapon system.



COST CUTTER—J. O. Noorlander (Dept. 25) suggested use of infrared oven to eliminate individual electrical heaters on polyurethane molds. Annual savings are estimated at \$3,801 and Noorlander will receive \$430 GD/Pomona Employee Suggestion Award.

Heinemann, Richardson Named Dynamics Vice Presidents

Edward H. Heinemann and Howard L. Richardson have been elected vice presidents of General Dynamics Corporation, Roger Lewis, president, announced.

Their appointments followed announcement of the election of H. S. M. Burns as a director of General Dynamics. Burns retired in December, 1960, as president, chief executive officer and chairman of the executive committee



H. S. M. Burns, former president of General Dynamics, is shown in a portrait. He is a middle-aged man with dark hair, wearing a suit and tie.

Log Book Entries Service Emblems

POMONA
Service emblems due during the period Oct. 16 through Oct. 31.
Twenty-year: Dept. 3-2, Jean F. Sutherland.
Fifteen-year: Dept. 4-3, James Welsh Jr.; Dept. 6, H. J. Gularde; Dept. 11-2, T. G. Miller; Dept. 31, Dorothy J. Monaghan.
Ten-year: Dept. 3-1, Dorris W. Curtis; Dept. 4-2, C. G. Martinez; Dept. 6, W. D. Ayers, V. E. Goodman, H. F. Harris, R. H. June, H. T. Kienitz, D. J. Maurer, T. T. Ogura, R. J. Puhek, L. E. Puffnaff, R. A. Tipton, J. L. Turner, R. C. Zimmerman; Dept. 7, Adele M. Ludwig; Dept. 22-2, M. M. Womack; Dept. 27, D. B. Burt, F. S. Smith; Dept. 73-3, G. W. Gentry, R. N. Johnson.
Five-year: Dept. 6, C. H. Combs, Aylene E. Dorsett, Charlotte A. Lewis, W. S. Pope; Dept. 13-2, June H. Halvorson; Dept. 22-3, A. J. McInnis; Dept. 25-2, Jack Thomas; Dept. 51, J. C. Castertine, G. W. Tober; Dept. 63, Mary L. Hamel, Gertrude D. Martinez, Mary L. Siem.
DAINGERFIELD
Service emblems due during the month of October.
Five-year: Dept. 2, Nancy Crossland; Dept. 3-4, B. W. Smith.

Promotions

POMONA
Promotions to or within supervision effective Oct. 8.
Dept. 6, Engineering: To asst. project engineer, E. E. Hamby. To development project engineer, G. H. Schillreff. To section head, L. R. Dutcher, G. C. Mitchell.
Dept. 13, Industrial Accounting: To tabulating asst. supervisor, Warren Goodale.

Awards

POMONA
Employee Suggestion awards totaled \$64 for the period ending Sept. 14.
Dept. 27, Quality Control: H. J. Harrel, \$10; J. P. Lawrence and L. L. Salchow, \$10 each (joint award).
Dept. 51, Machine Shop: E. J. McConaha, \$10.
Dept. 73, Final Assembly: R. M. Medina, \$24.

Births

DAINGERFIELD
MEANS—Son, Victor Alan, 7 lbs., 5 1/2 oz., born Oct. 6 to Mr. and Mrs. J. D. Means, Dept. 2.
MORGAN—Daughter, Sandra Sue, 6 lbs., 8 oz., born Sept. 27 to Mr. and Mrs. J. L. Morgan, Dept. 3.

Deaths

STEWART—Charles, retired employee. Died Sept. 19. Survived by wife, Freda L. Stewart of Philadelphia, Pa.

General Dynamics NEWS

Published by General Dynamics Corporation, One Rockefeller Plaza, New York 20, N. Y.; with editorial headquarters at San Diego 12, Calif., P.O. Box 1950, telephone CYpress 6-6611, ext. 1071, Logan Jenkins, editor-in-chief.
Astronautics Editorial Offices, Bldg. 8, GD/Astronautics, Mail Zone 130-01 P.O. Box 1128, San Diego 12, Calif. Telephone BRowning 7-8900, ext. 3322. Staff: Bryan Weickersheimer, editor; Willard Harwood.
Convair Editorial Offices, Bldg. 32, Plant 1, GD/Convair, Mail Zone 1-320, P.O. Box 1950, San Diego 12, Calif. Telephone CYpress 6-6611, ext. 1071. Staff: Grayce Fath, Helen Pemberton.
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Fort Worth Editorial Offices, Col. 72, Admin. Bldg., GD/Fort Worth, Mail Zone 0-50, P.O. Box 748, Fort Worth 1, Texas. Telephone PERshing 8-7311, ext. 2961. Staff: Dave Lewis, editor; Mary Beck.
Pomona Editorial Offices, Room 106-D, Bldg. 1, GD/Pomona, Mail Zone 3-3, P.O. Box 1011, Pomona, Calif. Telephone NAtional 9-5111, ext. 6226-5279. Staff: Glenn Kehr, editor; Carol Sowers. Daingerfield news office, P.O. Box 947, Daingerfield, Texas. Telephone LOne Star, Texas, 2211, ext. 424.

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Affiliated editions of General Dynamics NEWS are published in Rochester, N. Y., covering GD/Electronics and GD/Telecommunication, editorial offices, 100 Carlson Road, HUBbard 2-2200, ext. 2555, Gordon Morison, editor; and at Groton, Conn., covering GD/Electric Boat, editorial offices at Groton, HILLtop 5-4321, ext. 300 and 513, Joseph Tracey, editor.

Parts in Work For C-141 Task

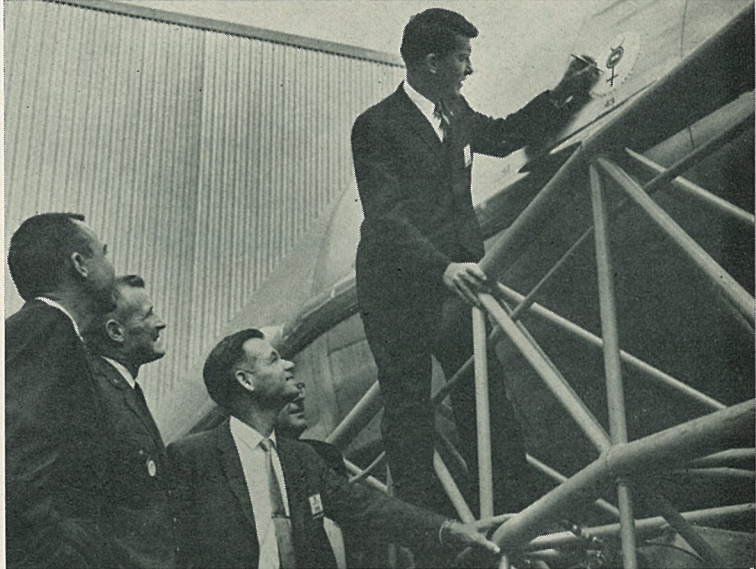
Production of parts that will go into the C-141 empennage is now well under way at General Dynamics/Convair with first assembly scheduled this month.

Most of the long-lead machine parts for the current order of seven empennages being built at GD/Convair for the Air Force jet cargo plane under a subcontract from Lockheed-Georgia Co., are in work, said N. P. Pearson, in overall charge of C-141 production.

Thousands of orders for detail parts have been released to the sheet metal department, which is well into the program.

First cuts on the first rear spar for the center tie box, keystone for joining of the vertical and horizontal stabilizer, were made early this month on the large Rockford hydraulic profiler in Dept. 115.

The first major assembly of the vertical stabilizer will be loaded into the large fixture during the first week in November. This stabilizer is slated for the first flight empennage which will go through fit and functional testing at GD/Convair's ramp facility before it goes to Lockheed's Marietta, Ga., plant in April.



ENDORSEMENT—Walter M. Schirra Jr., who made flawless six-orbit flight around earth this month, is shown autographing Atlas missile (such as placed him in orbit) during visit to GD/Astronautics in San Diego.

Atlas Launch Perfect For Six-Orbit Flight

"Near perfect" is the term heard most often in referring to the six-orbit flight of Astronaut Walter Schirra Jr.

And the term has a sweet sound, indeed, to the thousands

of General Dynamics/Astronautics men and women who played vital roles in making it possible. It is a fitting reward, if one is needed, for the many, many extra moments, and motions spent in seeing that Atlas 113-D was fabricated, checked out and launched with the utmost care.

Details of the flight are history. Launch came at 7:15 a.m. (EST) at Complex 14 and ended nine hours, 13 minutes later with successful recovery of the Sigma 7 spacecraft in mid-Pacific. Apogee in the six orbits was 176 miles and perigee, 100 miles. Orbit speed was 17,560 miles an hour.

"It was a perfect shot—the finest countdown we ever had," said B. G. MacNabb, Astro's director of operations at AMR. "There wasn't a hitch. The 'bird' behaved perfectly."

Conducting the countdown and committing Atlas 113-D to flight was Calvin D. Fowler, Astro site manager (formerly test conductor), and an Astro crew. Fowler and his force also launched Astronaut Scott Carpenter. At Fowler's elbow was Thomas J. O'Malley, Astro launch operations manager (formerly chief test conductor), who launched Astronaut John Glenn.

SAC Accepts More Complexes In Ceremonies at Lincoln AFB

LINCOLN AFB — With minimum fanfare, Strategic Air Command forces here have accepted the second series of Atlas-equipped, silo-based launch facilities to be delivered within the past three weeks.

Elements of SAC's 818th Strategic Aerospace Division received the facilities in turnover ceremonies here from Ballistic Systems Division of the Air Force Systems Command. Acting for the latter was Col. William E. Ruark, SATAF commander here, and former SATAF commander during activation of Atlas facilities at Forbes AFB, Kan.

Ceremonies were held Oct. 1. On Sept. 13 similar facilities were delivered at Schilling AFB, Kan.

Thus, SAC has received 24 (12 per base) launch complexes in which series "F" Atlas missiles are stored in silo or underground installations until ready for firing, when they are raised to the surface. With each squadron activated, SAC also received elaborate service facilities.

General Dynamics/Astronautics has served as prime contractor for the entire weapons system with base activation forces guiding the installation and checkout of equipment involved, including the missile.

In addition to series "F" facilities delivered, GD/Astro has delivered semi-hard or "coffin" facilities at Warren AFB, Wyo., Forbes AFB, Kan., and Fairchild AFB, Wash. Warren and Offutt AFBs were equipped with "soft" or above ground launch and service facilities for the series "D" Atlas. Combination operational and training Atlas facilities were also delivered at Vandenberg

AFB, Calif.

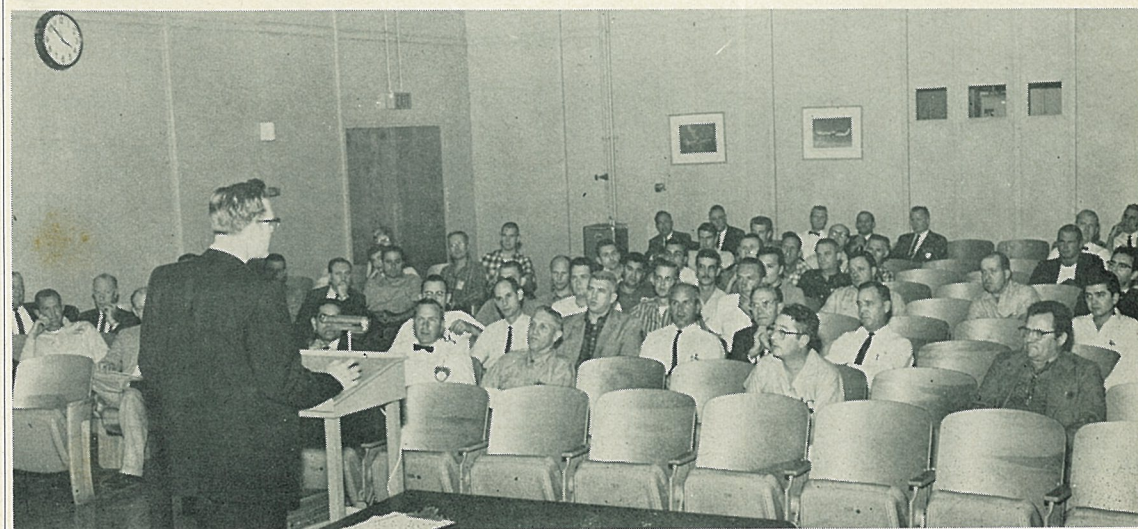
Four series "F" bases are still in activation stages, with completion scheduled by the end of this year. They are at Altus AFB, Okla., Dyess AFB, Tex., Walker AFB, N.M., and Plattsburgh AFB, N. Y.

Style Show Tickets Go on Sale Today

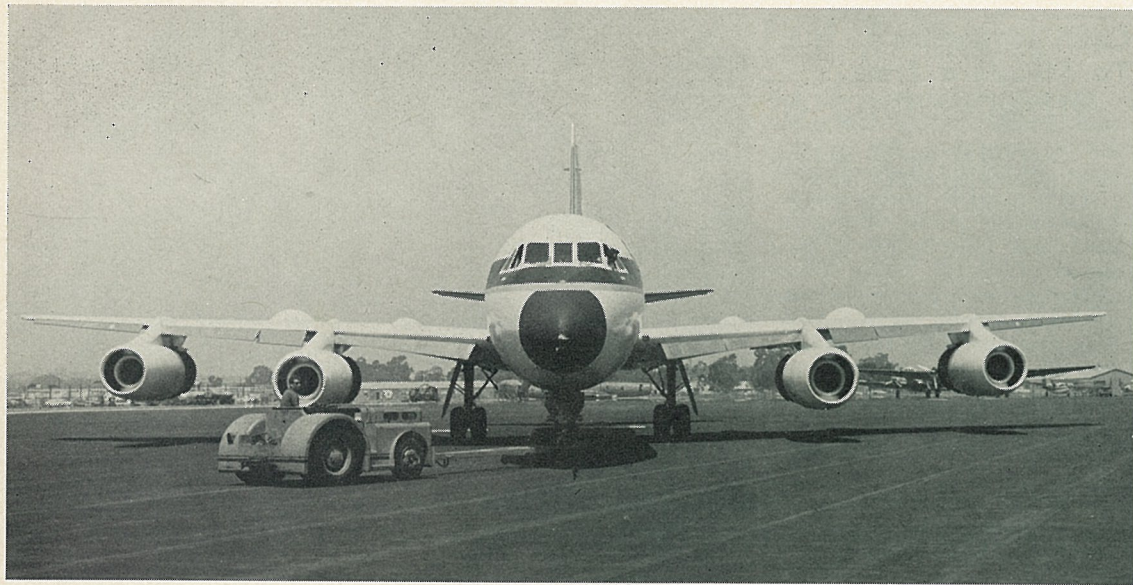
(Continued from Page 1)
Colbert, daughter of Carol Sowers; Roni and Rand Hallock, grandchildren of Rita McCammon (Dept. 6); Gina Sangermano, daughter of Louis Sangermano (Dept. 22); and Lou Williams, daughter of Jack Williams (Dept. 6).
Remember: Nov. 10 is the date—the Royal Tahitian Restaurant is the place—12:30 p.m. is the time for fun and fashion!



TEAMWORK—R. L. Small, right, value control coordinator for FMC Corporation, San Jose, was first representative of his company working with GD/Pomona as industrial team member of value engineering seminar. In group with Small are, left to right, H. M. Haap (Dept. 6), Harvey Goodwin (Dept. 24) and R. L. Hallse (Dept. 6). The 21st value engineering seminar Oct. 8-19 was attended by 27 from GD/Pomona, two from Army and one from FMC.



POPULAR COURSE—Opening sessions of introductory physics course on film attracted 185 GD/Pomona employees. Jack Peterson of educational services is instructor. Classes are being held each Monday and Thursday in Bldg. 3 auditorium, 3:45 and 4:30 p.m. Dr. C. E. Myers, coordinator for highly-touted science series film program in lay terms, expects additional enrollments.



CERTIFIED—Above is front-view shot of GD/Convair's improved 990A long-range jetliner recently certified by FAA. Plainly visible are full-span Krueger flaps which replace former combination of Krueger flaps from fuselage to inboard pylon and leading wing slats outboard across rest of wing.

625 mph Cruise Speed Achieved by 990A Jet

General Dynamics/Convair's 990A—long-range version of the newest jetliner—received an airworthiness type certificate from Federal Aviation Agency on Oct. 10, several days sooner than expected.

The FAA revenue ticket will permit Swissair to put the 990A into scheduled passenger-carrying service. The airline, which refers to the Convair jetliner as the Coronado, has already started to incorporate the improvements on the first of seven 990 Coronados presently flying Swissair and Scandinavian Airlines System routes.

General Dynamics/Convair has shipped improvement kits, including parts and tools, to Zurich, Switzerland. A team of company service, engineering, inspection, tooling and factory experts is helping Swissair incorporate the improvements on the first jetliner at the Kloten Airport.

Swissair has allotted 60 days to update the first airplane. The airline will cycle its six other Coronados into the improvement program to coincide with the regular service and overhaul schedule.

GD/Convair field service representatives stationed with Swissair at Zurich for 990 operations and updating support are F. D. Laffoon, E. R. Buckman, M. R. Addis, Mel Clause and John Crenshaw.

Meanwhile, GD/Convair is preparing to start another FAA flight test program to obtain certification of a second, still-faster version of the Convair 990A which will be operated by American Airlines.

J. H. Famme, president of GD/Convair, said the test version of the 990A has already attained a cruising speed of more than 625 miles an hour, faster than any other commercial transport now in service.

Two versions of the 990A are needed because of differing domestic and foreign airline requirements. The overseas 990A has been optimized for range and payload, while the domestic 990A has been optimized for speed.

An FAA flight test program for the production version of the domestic 990A is scheduled to start in November. After FAA certification is obtained, the 15 American Airlines 990s now in service will be cycled back to the San Diego plant for speed improvement changes. Five additional speed-improved 990As are on order by American Airlines for delivery next year.

Three basic changes are common to both versions of the 990A:

1. The engine pods are extended rearward 25 inches. The new-shaped fairing reduces the external drag of the pod, and at the same time, causes no detrimental effects on engine performance during cruise.

2. The wing leading edge is modified so that it has less camber or droop. This improves its shape for high-speed flight. Also, a different high-lift device arrangement is incorporated on the wing leading edge. Full-span Krueger flaps replace the former combination of Krueger flaps and leading edge slats.

3. A new fillet or fairing is incorporated at the juncture where the wing mates with the fuselage. This fillet helps prevent airflow separation, thereby reducing drag in high-speed flight.

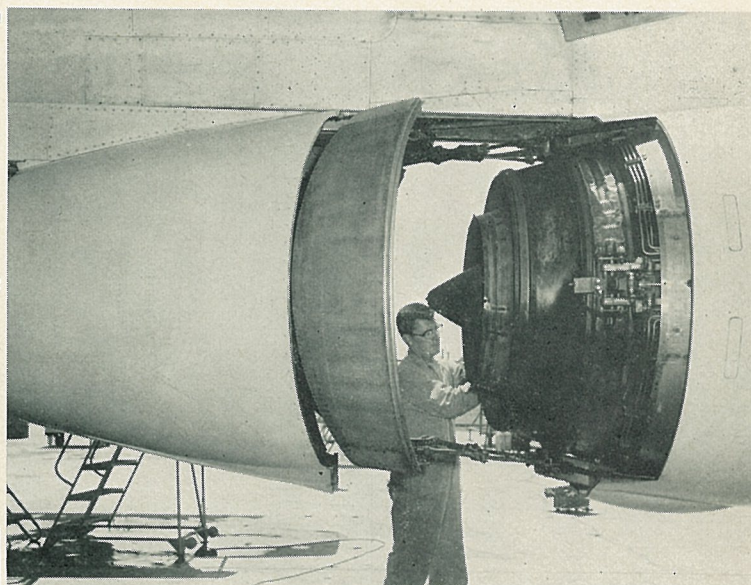
In addition, the domestic 990A has contour fairings added on the engine pylons and terminal fairings attached to the inboard side of each engine exit nozzle. Both the pylon and terminal fairings are applications of area-rule ("Coke bottle") design principles and help reduce drag at very high speeds.

The above changes are the result of extensive wind tunnel and flight tests undertaken to improve performance of the 990

jetliner. GD/Convair engineering test pilots have logged more than 325 hours flying versions of the Convair 990A.

The overseas version of the 990A, which was just certified, completed a 25-hour functional and reliability flight test program for the FAA late last month to prove the dependability of the new thrust reversers and flap system. The certified plane also demonstrated improved take-off performance and better climb-out characteristics, giving it greater flexibility for airport operations.

The 990 features some of the most advanced systems in the industry. It is the first jetliner to be equipped with a new proportional anti-skid braking system that has better braking capabilities on slick runways. It is also the first jetliner designed specifically to take advantage of the turbofan pure jet engine with its big advantage in thrust and fuel economy.



NEW LOOK—Latest 990 version carries extended pods, 25 inches longer than original design, with exhaust fairing opening on tracks for easy access. In above photo J. R. Heriot, Dept. 171 field service mechanic at GD/Convair, adjusts reverser lock with fairing "translated" aft into reverse, or open, position.

Radar Mapping System Tried Out in Hustler

A new airborne mapping radar capable of detecting details of the terrain thousands of feet below has been developed by General Dynamics/Electronics at San Diego.

The new system will permit rapid, accurate mapping of vast sections of the nation and the arctic regions which have never been adequately charted.

Produced under a U. S. Air Force development contract, the radar system has been test flown on a B-58 and is suitable for operation on transport aircraft, including the C-141. The system is a refinement of other General Dynamics mapping radars. In its development, emphasis has been placed on designing the radar to record faithfully on film extremely small terrain details from high altitudes.

In the General Dynamics system, a camera and film magazine are fitted over the radar screen. Each time the radar scans the terrain below, the synchronized camera takes a photograph of the

map displayed on the screen. The film is developed after the aircraft lands.

General Dynamics engineers say the system is superior to previous mapping radars because of the specially designed picture tube and the increased accuracy of the radar being used. This increases the ability of the radar to distinguish among small objects close together on the ground.

Besides taking the photograph, the data recorder makes a film record of the time and the aircraft's speed, location, altitude and direction.

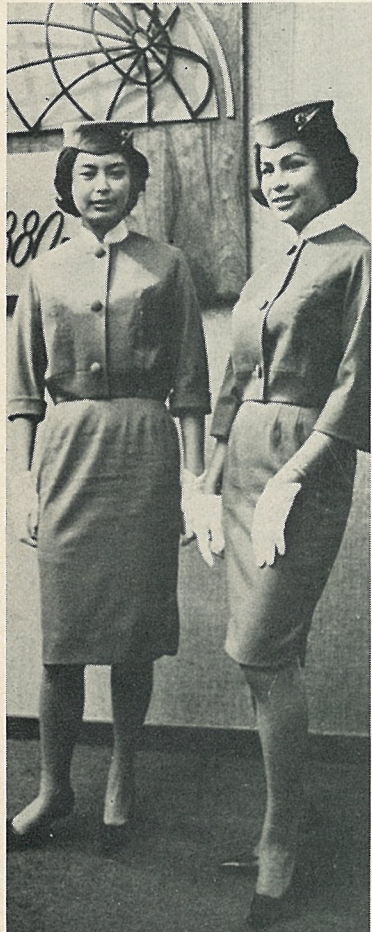
The system employs a cathode ray tube which displays the picture by using a series of extremely small dots. The ultra-small dot size makes the system's resolution of details about ten times better than conventional radars.

Contract for the airborne radar was received early in 1960 by the former electronics group of Convair division and carried on by GD/Electronics, under direction of D. A. Graybill, project engineer.

The radar system was delivered in May of 1961 to Fort Worth. Ron Williams, GD/E design engineer, was based there throughout the 14-month checkout program, concluded in August. Max Tucker was GD/E system engineer.

Because it uses radar rather than photography, the system can produce aerial maps under all weather conditions. Map displays are provided on two separate radar indicators. One is presented in a conventional manner to the aircraft's operator for navigational use. Another presentation, on the precision indicator, is recorded continuously by camera.

The radar has undergone environmental testing and operates successfully in a wide temperature range. In its flight testing, the system was subjected to the shock and vibration received on jet aircraft.

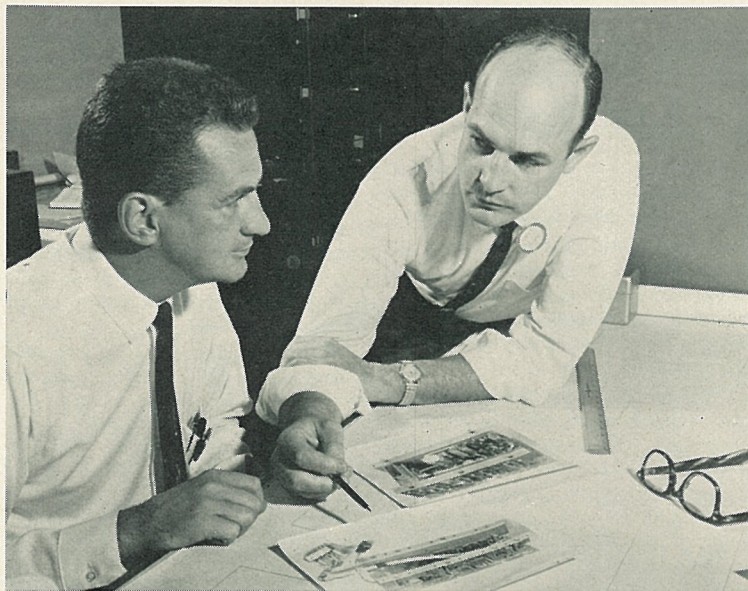


CHIC HOSTESSES—Rose Tam and Pamela Matos model stylish rose-red uniforms now replacing conventional dark blue for Cathay Pacific Airways hostesses. Cathay flies Convair 880 over Far East routes.

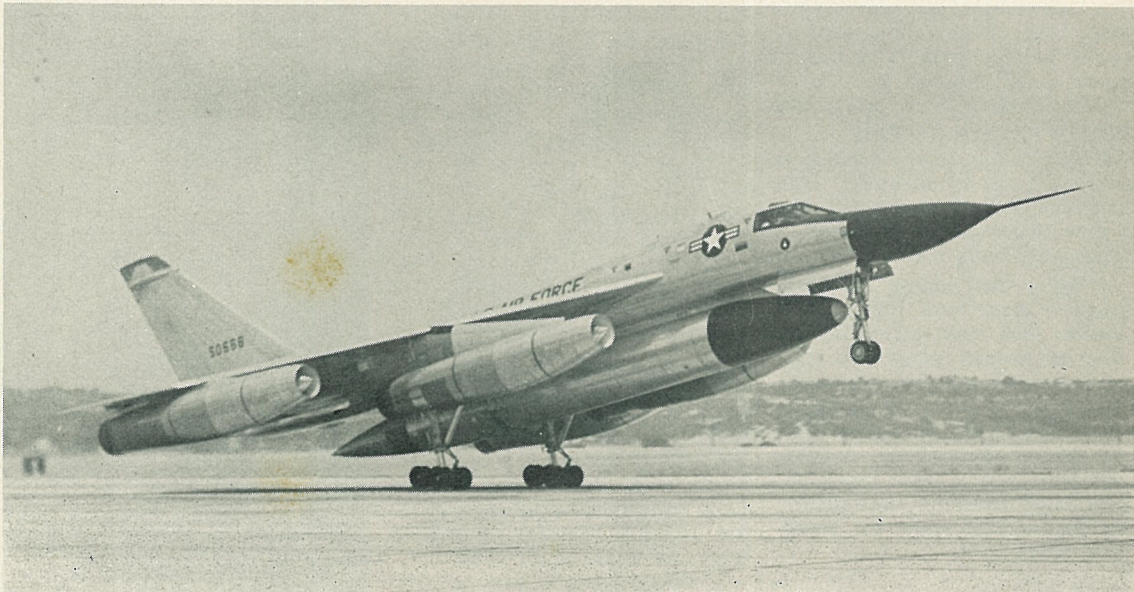
Symposium to Hear Astro Man's Paper

Romuald Anthony, GD/Astronautics Dept. 592-2, will give a report on horizon measurements from high altitude at the Infrared Information Symposium, Philadelphia, Pa., Oct. 29-31.

Anthony is research group engineer in the infrared-optics technical laboratory, located in Bldg. 51, Plant 1, San Diego.



CONFERENCE—D. A. Graybill, GD/E project engineer, and R. B. Williams, design engineer, check over photos of components incorporated in GD/E-developed airborne radar reconnaissance system.



TEST BED—Hustler No. 9 ready for takeoff at Fort Worth during flight checkouts of new airborne radar system developed by GD/Electronics at San Diego for Air Force. Plane is equipped with new-type radome containing components of system.



GLASS FUN—In top photo GD/Convair wife Helen Keough in her glassware workshop. Below, Betty Young measures fiber glass which will form top of glass-studded lampshade.

Bottle Busters

GD/Convair Wives Are Artists When it Comes to Glass Work

Two GD/Convair wives have solved the common household problem of what to do with empty bottles—they transform them into objets d'art!

The homes of Helen Keough, wife of N. R. Keough, Dept. 31 superintendent, and Betty Young, wife of Wesley C. Young of tool planning and design, are graced with colorful ash trays, flower containers, dishes, bowls of unusual and strange shapes, wall plaques, all made from ordinary glass bottles, whole or crushed.

And, they've both gone far beyond the mere melting of a bottle in a kiln in their imaginative use of glass. Mrs. Keough has constructed a realistic underwater scene on her bathroom window, using shells, starfish, tiny glass fish, sea horses perched in coral fans. One of her first projects was a holiday pane with bits of green glass shaping the Christmas tree that goes up in the front door every Yuletide.

Mrs. Young forms massive, medieval-type candlesticks from discarded glass insulators. She is now in the midst of an ambitious lampshade construction.

"We're not above scouring gutters and back alleys for bottles that look interesting or bits of broken glass just the right color," said Mrs. Keough. "And our grocery shopping is governed by the kind of bottles we find on the shelves—in fact, our family is a little weary of the salad dressing that comes in bottles just right for small ash trays."

The two became interested in glass craft through an adult education class six years ago when the hobby was in its infancy. Since then they have expanded

their talents with original ideas and designs and private lessons from a Spring Valley instructor.

Their bottle forming consists of placing a bottle in a shallow mold and heating in a kiln at extreme temperatures until the bottle "sags," or melts down into the mold.

"We never know what shape they will be when they come out," they said. "Each one is an 'original.'"

Wind chimes with pure tones are made from glass rings, cut from a round bottle by what Mrs. Keough calls her "bottle buster," a charged electrical wire wrapped around the bottle. The rings are heated to give them a rounded shape and hung from shapely jugs or pieces of driftwood. They tinkle musically in a breeze.

Among the long list of decoration pieces they've experimented with are wall plaques, jewel-decorated goblets, plates, jewelry from fired glass chunks or marbles.

"There is no limit to the hobby," said Mrs. Young. "One idea leads to another, and we never look at anything made of glass—from a headlight to a plate glass window—without thinking 'what can we do with that!'"

Fire Dept. Captain Dies on Vacation

T. W. Attebury, GD/Fort Worth fire department captain since 1951, died of a heart attack Oct. 15 while vacationing at Lake Whitney, Texas.

Attebury went to work at GD/FW Feb. 23, 1942, as a hose man in the fire department. He was the first fireman hired by Fire Chief C. H. Jones.

Calif. to Return To Standard Time

Clocks in California will be turned back an hour this coming Sunday (Oct. 28) as the state returns to standard time.

All General Dynamics people based in the state will regain the hour they "lost" this spring.

Daylight saving time was extended a month for the first time this year following adoption of the plan at the last state election.

Airborne Antenna Installed in C-130 For Missile Checks

General Dynamics/Convair is winding up its task for the Air Force under a contract to develop and install a directional airborne antenna receiving system in a C-130A transport.

Following flight tests at the San Diego plant last week the C-130A was due to return to U. S. Air Force Missile Test Center, Patrick AFB, Fla., for continuation of operational checks under simulated tactical conditions, said Frank Machado Jr., design specialist responsible for the program.

The Air Force craft has been in Plant 1 experimental yard during the last month for installation of the system which is designed for use in connection with telemetry at Atlantic Missile Range to track missile nose cones re-entering the atmosphere.

Can't Afford Both

Racing vs Matrimony? Sports Cars Triumph

Bruce Eglinton of General Dynamics/Pomona's Dept. 6 won the Formula race at Los Angeles County Fairgrounds in Pomona last month posting the second fastest winning average speed of the day, 77 miles per hour, with his Lotus 20B Junior. The races were sponsored by United States Sports Car Club.

Eglinton started racing in 1959 while attending California Institute of Technology at Pasadena. He confines his racing to the Formula Junior class—open-wheel racers of approximately 100 horsepower and top speeds of about 130 mph.

Last year Eglinton ranked second in point ratings kept by Sports Car Club of America. This year he is currently in fourth place. His present car is a 1961 model Lotus that he races about 15 times a year.

"Most of my spare time and money goes into racing," Eglinton said. "Couldn't afford the sport if I were married."

Eglinton, who joined GD/Pomona in June of 1960 after graduating from Cal Tech, receives a lot of help from friends. Jap Cottam (Dept. 6), for ex-



BANNER EVENT—A blue and gold banner was presented by Roy A. Williams, left, president of GD/Pomona Management Club, to George Watkins, newly-installed president of Electronics Management Club in Rochester.

Management Club Organized At GD/Electronics-Rochester

A new Management Club, organized at GD/Electronics-Rochester, received its charter from the National Management Association at a special charter night program last month.

Roy A. Williams, president of the GD/Pomona Management Club, presented a banner to George Watkins, newly-installed

club president at Rochester. The 3½-by-5-foot blue and gold banner was presented on behalf of the GD/Pomona Management Club.

"It gives us great pleasure to take part in this special program," Williams told the large group attending, "and we in Pomona are happy to welcome the GD/Electronics Management Club as a brother club in the National Management Association. Our members have received great benefits from participation in our club, and we hope that you men here will gain similarly from your active participation in this new organization."

William Lees of Westinghouse Corporation, a regional director of the National Management Association, installed officers and presented the charter.

Dr. Arthur Secord, director of community services for Brooklyn College, spoke to the group on the subject of "How to tell what you know."

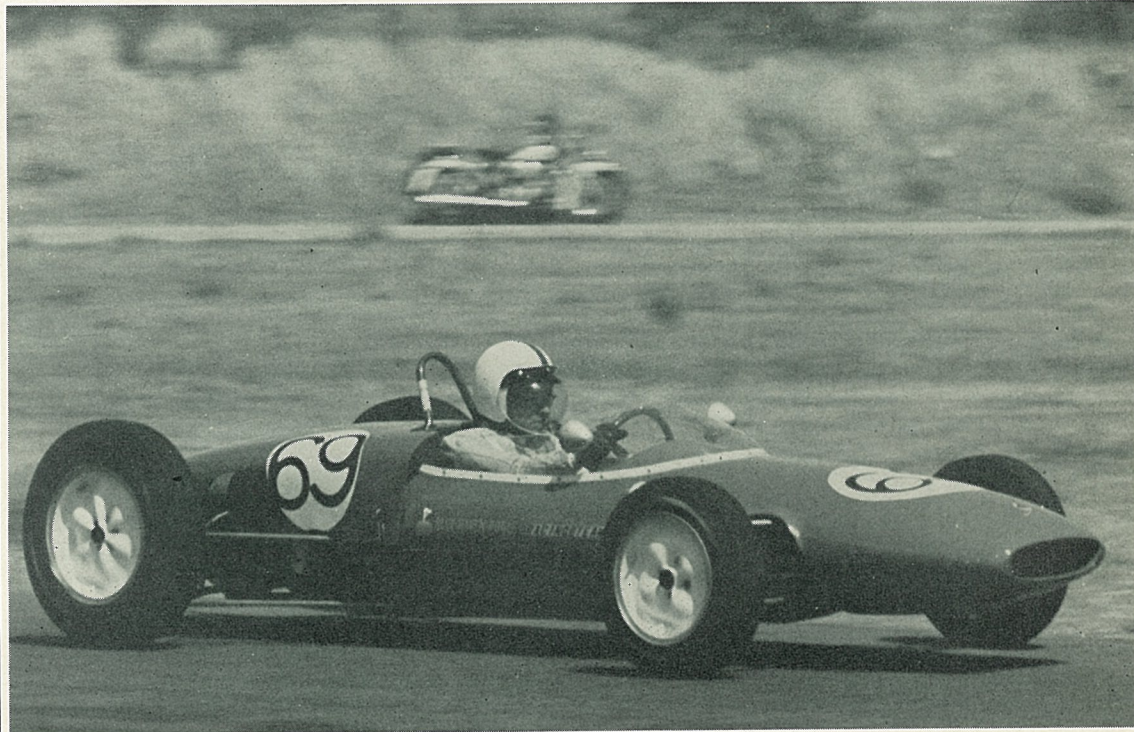
The Electronics Management Club of Rochester now has a membership of nearly 400, and about 250 of these attended the charter night program.

Veterans of Vultee Will Hold Reunion

Vultee Field veterans will gather for their 15th annual reunion at a stag dinner Saturday, Nov. 3, at Disneyland Hotel, 1441 S. West St., Anaheim, Calif.

Social hour starts at 5:30 p.m. followed by dinner at 8. Price for the dinner, including tax and tip, is \$5.

All reservations must be in by Oct. 30. They are to be mailed to Vultee Club, 11010 Garfield Pl., South Gate, Calif.



FAIR WINNER—Bruce Eglinton (Dept. 6) won Formula Race at Los Angeles County Fairgrounds last month with his Lotus 20B Junior. His average speed was 77 mph. Last year Eglinton ranked second in point ratings by Sports Car Club of America.



WET "WEATHER"—City of Seattle trucks poured thousands of gallons of water on King County Airport for wet runway tests on Convair 990A. Part of crew is shown beside plane. From left: F. W. Chapman, flight test engineer; Don Gross, aerodynamics engineer; Howard Auten, pilot; Captain John Knebel; Ed Guske, senior flight test engineer; E. D. Shannon, manager of engineering flight test; David Blundell, American Airlines engineer; Glen Brink, engineering test pilot; R. F. Bausback, instrumentation engineer.

Runways Flooded in Rainy Weather Tests of Convair Jet 990 at Seattle

A wide-ranging Convair 990, ship No. 2, sped to Edwards AFB, Calif., last week, for further test flying shortly after a damp sojourn in the Pacific Northwest.

Although Federal Aviation Agency airworthiness certification for the Swissair 990A version was received this month, No. 2 was tabbed for further check-outs on additional customer-required items for both Swissair and American Airlines.

Completion of its present demonstrations is slated for next week, say General Dynamics/Convair flight test engineers. Besides FAA observers, GD/Convair crew members are John Knebel, captain; Warner Lowe, flight test engineer; Jack Fogleman, flight engineer; F. W. Chapman, weights engineer.

No. 2 was based in Seattle,

Wash., the first 10 days of this month for wet runway takeoff and landing demonstrations for American. Purpose was to gather information to determine optimum brake pressure for landings on rain-soaked runways. Accumulated data now is being readied for evaluation.

Although grounded for a couple



"After thirty days practice they let us work on people."

Dial X Phones To Communicate With Satellites

The same type of rugged "Dial-X" telephone system that serves aboard all of the U. S. Navy's Polaris-firing nuclear submarines is now being manufactured by General Dynamics/Electronics at Rochester for use in the "Syncom" communication satellite program.

"Syncom" is a planned communication satellite that will be placed in a "synchronous" orbit. That is, its orbital velocity will be matched to the earth's rotational speed, so that it will remain in a fixed position relative to a location on the earth's surface.

Most efficient use of the "Syncom" program will require a number of communications centers at various locations around the globe. Each of these centers will be a complex network of message-gathering equipment, radio transmitting and receiving systems, and distribution links.

The "Dial-X" systems, which are being built under John P. Daley in industrial manufacturing at GD/E-Rochester will serve the internal communications needs of these centers. Vincent F. Renda was industrial marketing coordinator on the contract awarded by the Bendix Radio Division of the Bendix Corporation. The contract calls for three systems. Bendix is developing the centers for the National Aeronautics and Space Administration under technical direction and program management of the U. S. Army Signal Corps.

In addition to the normal "Dial-X" features, which include executive right-of-way, conference linkages, and the "magic memory" which automatically calls back a busy line as soon as it is released, the special switchboards being built for the "Syncom" project will provide full paging accessibility. This gives every telephone instrument in the system access to the paging system simply by dialing one digit. At some stations the military Type G telephone instruments will have provisions for the optional use of headsets. GD/Telecommunication will build telephones and some of the associated equipment for the program.

Test Lab Engineer Author of Article

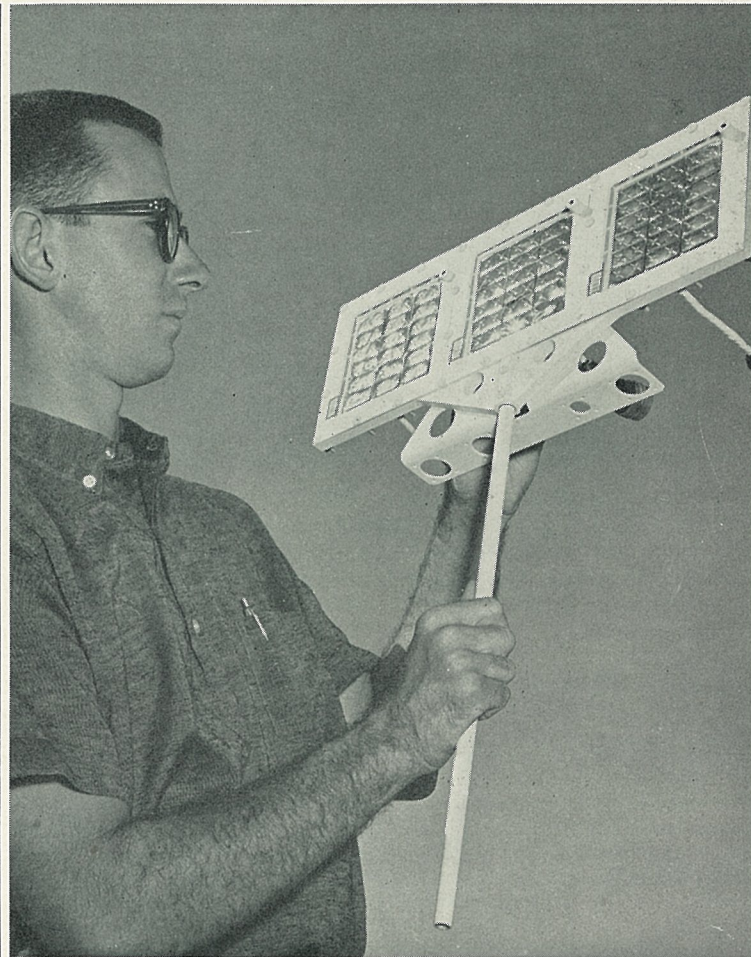
R. D. Dickens, Dept. 500 dynamics test lab engineer, based at GD/Convair Plant 1, is author of an article appearing in the September issue of Electronic Industries magazine.

Under the title, "Analyzing Data by Least Squares," he presented a simplified explanation of application of the method used to determine the true value of common factors affecting data with respect to gyros and displacement transducers with the maximum of accuracy.

of days during heavy natural rains and gale winds, the sturdy jetliner made 52 landings during nine flights.

Ready-made wet conditions were achieved with four City of Seattle engineering department water trucks dousing the King County Airport runway with 8,000 gallons of water as the 990 swung in for landings.

All of the GD/Convair team accompanying the plane expressed appreciation to Boeing Co.'s manager of flight test and supporting services, O. W. Crockett Jr.; chief of commercial flight test, William Lieberman; operations engineer and coordinator, William Daniels, as well as King County Airport personnel for their assistance in providing facilities and people during the operation.



CONVERTERS—Solar panels using new concept for converting sun's energy into power for space vehicles, developed by General Atomic at San Diego, will be sent into orbit this fall.

GD/Atomic Solar Power Unit Will Be Orbitated

Wafer-thin solar thermoelectric panels, representing an entirely new concept for converting the sun's energy into auxiliary electrical power for space vehicles, will make their maiden voyage into space this fall aboard an Air Force satellite.

Developed by the General Atomic division of General Dynamics Corporation, the new solar converters have the marked advantage over present silicon solar cell systems of being relatively insensitive to radiation, including that from the Van Allen belts. They also have potential weight and cost advantages.

Built by General Atomic for Lockheed Missiles & Space Company and the U. S. Air Force Systems Command's Aeronautical Systems Division, the flat panels consist of a large number of tiny thermoelectric elements made of a semiconductor material "sandwiched" between two thin metallic sheets—one a collector and the other a radiator.

Initially, three four-inch-square panels will be tested as part of an experimental package to be sent into orbit from Vandenberg Air Force Base, Calif., aboard a Lockheed-built Thor-Agena assembly.

Unlike photoelectric solar cells which convert sunlight directly to electricity, the panels first convert the sun's energy to heat and then to electricity, the operating principle being that a temperature difference across a thermoelectric material causes electric current to flow. The electricity could be used for powering space vehicle controls, guidance

systems, scientific research instruments, television and other communications systems.

The panels owe their radiation resistance to the fact that thermoelectric elements are not dependent on high purity materials for successful operation. In contrast, silicon photoelectric solar cells must be made of extremely high purity materials and their performance may be seriously degraded by effects introduced by exposure to radiation in space.

Once in space, the panels will be extended from the satellite on a boom and exposed to the sun's energy. Each panel is designed to produce one-fourth watt of electrical power when exposed to full sunlight. In this test the electricity produced will not be used as auxiliary power on the satellite.

To produce electricity, the solar thermoelectric panels depend on a temperature difference between the collector plate, which faces the sun, and the radiator, which faces away from the sun. The collector converts solar energy to heat which passes to the thermoelectric elements. These, in turn, convert the heat to electricity which may then be withdrawn by completing a circuit across the collector and radiator. The radiator rejects unconverted heat into space.

In the range of a few watts to several hundred watts, the concept shows promise of being both lighter and cheaper for use in an earth orbit than any other type of auxiliary power generating system with similar output.



"We have a number of occupational hazards . . . I'll introduce you to some of them."



COLLEGE GIFT—A. E. Lambert, left, coordinator of educational services for engineering at General Dynamics/Pomona, presents Corporate checks to Harvey Mudd College and Claremont Men's College. Receiving checks are Dr. George C. S. Benson, center, president of Claremont, and Dr. Joseph B. Platt, right, president of Harvey Mudd.

Radio Program 'Controversy' Observes First Anniversary

Area Toastmasters will mark the first anniversary of their radio program, "Controversy," with a special program Sunday, Nov. 4, over station KWOW, Pomona.

The weekly program was founded one year ago by Randy Wills (Dept. 6) with assistance from Jack Williams (Dept. 6), at that time governor of Toastmasters Area 5B.

Participants are from the five area Toastmasters clubs including Convair 2837 and Terrier 1616, the two clubs with General Dynamics/Pomona employees as members.

The Nov. 4 program, 9 to 10

p.m., will feature Maurice Forley of Santa Ana, executive director of Toastmasters International; Paris S. Jackson of Temple City, vice president for education of Toastmasters International, and Leo Martin of Glendora, governor of Founder's District.

Richard Williams and Jon A. Dienlin (both Dept. 6) will serve as the other two panel members. Amos W. Randall, member of Pomona 12 club and past governor of Founder's District, will be moderator.

Topics of weekly programs during past year have included fallout shelters, family and juvenile delinquency, wire tapping, industry and education in action and layman's look at our economic system.

"Response to the weekly programs has exceeded our expectations," Wills said. "In fact, these programs have created a new listening audience."

★ ★ ★

Eighth semi-annual installation of officers for Terrier Toastmasters Club at GD/Pomona was held Oct. 8 at the Dinnerhorn Restaurant in Covina.

Officers were installed by Jack Williams (Dept. 6), assistant lieutenant governor of Toastmasters Division B. He was assisted by the outgoing club president, Rick Little.

New president is Don Long and his administrative vice president is Vance Mingus. Other officers are: W. J. Whalen, educational vice president; J. D. Phillips, secretary-treasurer; R. P. Williams, recording secretary; and B. E. Johnson, sergeant at arms.

Theme for the evening was "Progress through Communications." The program cover displayed a missile in flight and the inside was printed upside down to reflect the absence of gravity in outer space.

Toastmaster was Lee Schwartz who introduced the two speakers, Jon Dienlin and John Phillips. Dienlin gave his "Ice Breaker" speech and Phillips spoke on "Freedom of and from Religion."

Table topics were conducted by Vance Mingus on the subject, "Husbands' Rights."

Mgt. Club Prepares Convention Exhibit For Display in N.Y.

Activities of General Dynamics/Pomona Management Club will be featured in an audio-visual presentation at the annual National Management Association convention in Buffalo, N. Y., starting today (Oct. 24) and ending Friday.

The audio-visual presentation is Pomona's entry in the Idea Fair, which displays and explains successful projects and activities of the different clubs during the past year.

"Administrative, service and management development projects of the club are featured in the four-minute presentation under direction of A. E. Lambert," Club President R. A. Williams said.

Williams, Secretary F. G. Mentlick and T. W. Moffet, former treasurer who recently transferred to GD/Electronics, are attending the national convention as delegates of the GD/Pomona club.

COLLEGE INSTALLS GD/TEL EXCHANGE

The first electronic telephone exchange serving an educational institution has been installed at Ripon College in Ripon, Wisconsin.

Designed and manufactured by General Dynamics/Telecommunication of Rochester, N. Y., the PBX system provides unattended service for the entire college. All-electronic phone systems are essentially special-purpose computers which make connections more rapidly than electromechanical systems and provide greatly improved transmission.

GD / Telecommunication also built the first electronic PBX for business use which has been in operation at Southern Pines, North Carolina, since last year. In September, the company completed installation of the first all-electronic dial system serving an entire community, which was put into operation at Etna, N. Y.

Rockhounds Scour Searles Dry Lake

GD/Pomona Rockhounds joined members of other Southern California Rockhound clubs at the annual Searles Lake Gem Show and field trip Oct. 13-14.

Approximately 300 people attended the show and went "prospecting" for specimens of hauksite, glassite and halite in the Searles Dry Lake area near Trona, Calif.

Commissioner Jack Williams reported that strong winds on Saturday night prevented additional field trips scheduled to nearby areas on Sunday.

Members will search for chaparral on their next field trip planned Nov. 24-25.

Brouillard Named GD/E Program Mgr.

General Dynamics/Electronics-San Diego has announced appointment of Rex L. Brouillard as manager of program administration.

In that position Brouillard will be responsible for preparation of technical proposals which GD/E submits to government agencies and to other potential customers. In addition his organization monitors the various programs while they are in production in order to determine schedule and cost status.

Radio Engineers Unit Slate Dinner Meeting

Orange Belt subsection of Institute of Radio Engineers will meet Nov. 7 at the Royal Tahitian Restaurant in Ontario. Dr. H. W. Welch Jr., general manager of Solid State Systems Division of Motorola will talk on "Comparison of problems in the design of industrial and military control systems." For dinner reservations phone Ray Shield, ext. 7143.

Wartime Officer in Rangers Assigned to Redeye Project

Present emphasis of Army training on counterinsurgency and counter guerrilla operations recalls for W. F. Nye of General Dynamics/Pomona (Dept. 6) his Commando and Ranger training during World War II.

Nye, a native of Kearney, Neb., was one of the first group of American troops to volunteer for the Rangers—American counterpart of British Commandos. This group later gained fame as "Darby's Rangers" and a movie was based on their daring achievements.

Nye joined GD/Pomona in 1961 and is assigned to the Redeye development program. (Redeye is the infrared surface-to-air guided missile system designed to give infantry the capability of destroying low strating or bombing aircraft.)

Every man a volunteer, the first Rangers were trained by the Commandos and added improvisations of their own. Approximately 1,300 began training—only 500 were able to complete the strenuous program.

"Predominant in Ranger tactics were surprise and speed in launching an attack and the ability to withdraw in order, still a potent fighting force when the need arose," Nye explained. "Being only lightly equipped, the heaviest weapon carried was the .60MM mortar, which depended on fast striking power."

Nye's Ranger activities are summarized in "Darby's Rangers," published in 1945 to recount the epic story of the First, Third and Fourth Ranger Battalions: "One of the original Ranger officers, Major Nye commanded the first platoon of F Company during the North African engagement with the rank of first lieutenant. Upon activation of the Fourth Battalion, he assumed command of F Company as a captain and led it through the Sicilian-Salerno-Venafro engagements."

"Serving as executive officer of the Fourth Battalion on the Anzio Beachhead, he was promoted to major during heat of Cisterna battle. He later commanded the battalion when the beachhead forces went on the defensive."

"Entrenched along the famous Mussolini Canal, the battalion helped stop several heavy German attacks, was under direct artillery and flak-wagon fire for almost a month without rest. Though often at the fore, Major Nye is one of the very few Rangers to come through unscathed."

Nye was awarded the Silver Star for gallantry in action during the Sicilian campaign. James Altieri, author of "The Spearheaders," published in 1960 by Bobbs-Merrill, reported: "In our outfit medals were at a high premium. Heroic action was considered a Ranger's duty. We members of Fox Company felt mighty proud that one of our men had won the Silver Star."

Capt. Walter F. Nye, our 6-foot 4-inch, level-headed, never-perturbed, front-running company commander received official recognition for his daring and courage in the 'Battle of Cathedral Square' at Gela. He certainly deserved it.

"It was characteristic of Capt. Nye to line the company up and tell us: 'While I am proud to accept this medal and what it represents, to me this is not a personal award but an award to all the Rangers of Fox Company. This is your medal, as much as it is mine.'"

The First and Third Battalions were lost at Anzio and the Fourth suffered 50 per cent casualties. Gen. G. C. Marshall in mid-March of 1944 ordered the war-weary surviving Ranger veterans back to the United States to train other troops.

Eventually the Ranger Training Command was established at Fort Benning, Ga., as a memorial to Col. William O. Darby, who was killed in action two days before the German forces in Italy surrendered. The surviving Rangers were dispersed throughout training centers in the U. S. to help infuse the Ranger spirit and know-how into the Army.

Nye was sent to Command and General Staff school at Ft. Leavenworth, Kan., and later was assigned as a technical adviser for the Ernie Pyle film, "GI Joe."

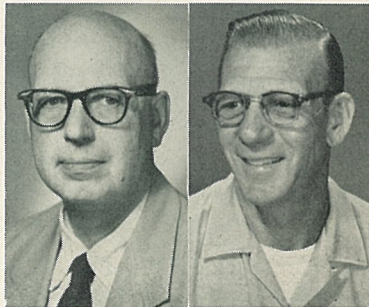
After being placed on inactive status in 1946, Nye resumed his education and received a bachelor's degree in industrial engineering from the University of Southern California. He currently is a colonel in Army Reserve assigned as G-3 in 6329th Logistical Command, Ontario.

CON-TRIB OKAYS \$1,650 DONATION

A contribution of \$1,650 to La Puente Valley United Fund has been approved by the General Dynamics/Pomona Employees Con-Trib-Club.

Chairman H. S. Naish reports that a second reading and final approval for the donation was made at the business meeting earlier this month.

Also approved was a contribution of \$820 to the Claremont American Red Cross.



Members of the 12-place committee which directs affairs of the Employees' Con-Trib-Club represents a good cross-section of GD/Pomona. To better acquaint employees with them individually, GD/NEWS will carry photos, two per issue, beginning with Harold Miller, left above, Dept. 13, committee treasurer and company representative, and at right, Frank Entler, Dept. 51, International Association of Machinists representative.



FUTURE STUDENTS—Forty at GD/Pomona received in-plant counseling earlier this month on courses being offered at Los Angeles State College. Standing, from left: K. Sahara and J. D. Mason (Dept. 6), R. A. Hughes, T. B. Narzisi, P. K. Bassham and J. K. Eimer (Dept. 27). Seated: D. L. Clark (Dept. 6), Michael F. Grisafe, business administration counselor from the college, D. E. Barch and D. R. Long (Dept. 6).



SCHOLARS—Jack Mason, director of engineering, congratulates winners of General Dynamics Corporation National Merit Scholarships at Pomona, Robert A. Edgell, son of Alan D. Edgell (Dept. 6), and Beth Ann Burdick, daughter of Mrs. Florence W. Burdick (Dept. 6).

Sports & Recreation

Ski Club Members Arrange Full Schedule of Activity

A full schedule of meetings and activities for November and December is planned for GD/Pomona Ski Club members, Commissioner Chuck Rue announced.

First club meetings will be held Nov. 14 in PRA Clubhouse dining room. More information will be available later.

Coming events include:

Oct. 26-28 — Winter Sports Show, Shrine Exposition Hall, Los Angeles; Tickets \$1 purchased in advance, \$1.25 at door; proceeds to junior skiers. Excellent display of ski equipment and clothes. Open noon until late evening.

Nov. 3—"High Skis" film by Dick Barrymore, Mira Costa High

School auditorium, 4061 Artesia Blvd., Manhattan Beach; tickets from Bay Chalet Sports Shop or at door.

Nov. 7-11—"Around the World on Skis" film by Warren Miller, Wilshire Ebell Theater; sponsored by Ski Club Alpine; tickets obtainable by calling Bill Lindeman, DI-8-7462.

Nov. 17—Ski swap, Shrine Exposition Hall, Los Angeles, sponsored by Grindelwald Ski Club.

Nov. 28-Dec. 1—"Stars in the Snow" film by John Jay, Wilshire Ebell theater; for tickets call GR-9-3617 or GR-2-5709.

Dec. 6-8—"Some Like it Cold" film by Dick Barrymore, Wilshire Ebell theater; sponsored by Ski Club Avalanche, call Eber Slaughter, TH-2-4897 for tickets.

Dec. 8-9—First ski club outing, Mammoth Ski Area, call Bob Long, ext. 6110, for details and reservations.

Members wishing to join the Far West Ski Association should submit \$4 to Club Treasurer Rob Collins.

Bowmen at Pomona To Shoot For Birds

GD/Pomona archers annual turkey shoot will be held 9 a.m., Nov. 3, PRA range near the heliport.

Turkeys will be awarded mostly on a luck basis, according to Commissioner Elmer Dahlstrom, but "pros" will have a chance to win on special skill targets.

Animal targets will be used at this Saturday's (Oct. 27) tournament. This will be the first time in three months that they have been used for a club tournament and Dahlstrom urged archers to attend and find out if their skill has improved.

Winners of the Oct. 13 tournament were: Jean Tweed, Millie Jennings, Don Rodgers and Jimmie Gottier. Hal Hasenbeck and Gene Hasenbeck took honors in the Free Style Division and Hal and Jimmie Gottier won the Clout Shoot.

Lens Club Will Hear Talk on Techniques

"Camera Techniques" will be discussed by Elmer Kingham of Redlands at GD/Pomona Camera Club meeting tomorrow night (Oct. 25).

The meeting will begin promptly at 8 p.m. in Hobby Room of PRA Clubhouse.

Commissioner Paul Jackson urged members to bring their prints and color slides for judging. Results will be available at the next club meeting, he said.



SHALL WE DANCE?—GD/Pomona employees watch "how it's done" during session of current 10-week class in ballroom dancing lessons for beginners. Commissioner Tony Nigliazzo is fourth from left in row of onlookers.

Stamp Club Shifts Back to Fridays For Meeting Night

The GD/Pomona Stamp Club's trial meeting on the third Tuesday of the month was not successful and the group will revert to its former meeting night of the third Friday every month.

A 12-year-old guest, Jim Tait, won first prize in the monthly theme contest at the Oct. 16 meeting for his entry depicting "Halloween" in world postage stamps.

A turkey will be awarded as the door prize at the Nov. 16 meeting and the monthly theme will be appropriately, "Thanksgiving." First, second and third prizes will be awarded as usual, according to Commissioner Jim Simpson. Main feature of the evening will be a "stamp swap" and members are urged to bring stamps for trading.

The club would like to increase its membership and GD/Pomona employees and members of their families who are interested in philately are cordially invited to attend meetings. Guests are also welcome. Call Simpson ext. 7244, for details.

WOMEN TO MEET AT CHARM SCHOOL

A get-acquainted meeting will be held at 7:30 p.m. tonight (Wednesday) at Cameo Studio of Modeling and Charm to familiarize GD/Pomona women employees and wives and daughters of employees with a proposed self-improvement course.

Sponsored by Women's Activities, this will be a free session and women attending are under no obligation to sign up for classes.

The Cameo Studio is a new charm school located at 1655 Berkeley, Pomona. The director is a former GD/Pomona employee, June Hoisington.

Self-improvement lessons will be held one night per week for 10 weeks and cost of the series is \$20 per person, payable in two installments. Each session will be two hours (7:30 to 9:30 p.m.) and will probably be held on Wednesday evenings.

Make-up, hair styling, figure control, posture, grooming and poise will be stressed during the course.

If you are interested but cannot attend the meeting tonight, call Commissioner Jackie Daoust, ext. 208, for further details.

Highland Dancing Lessons Offered

Classes in Highland and Scottish country dances will be offered at GD/Pomona beginning Nov. 14.

Separate classes for adults and children will be offered and the lessons will be given from 7:30 to 9 p.m. on Wednesday evenings.

For information or registration call Commissioner Louis St. Martin, ext. 8161, or Mrs. Ralph Bayer, NA-9-3787.

PRA Calendar

(GD/Pomona Recreation Association sponsors 23 activities for employees. For information call the PRA office, ext. 208. All meetings listed below held in PRA Clubhouse unless otherwise noted.)

★ ★ ★
ARCHERY — Second monthly shoot at 9 a.m. this Saturday (Oct. 27), PRA range near heliport.

BRIDGE CLUB—Meetings at 7 p.m. Oct. 29 and Nov. 5.

CAMERA CLUB—Meeting at 8 p.m. tomorrow (Oct. 25).

CERAMICS—Instruction offered every Tuesday, Wednesday and Thursday, 7 to 10 p.m., Ceramics Workshop, PRA Clubhouse.

CHESSE CLUB—Plant Chess Tournament now in progress. Instruction given 6 p.m. every Thursday. Open play meetings 6:30 p.m., Oct. 25 and Nov. 1.

ROCKHOUNDS — Lapidary workshop open 7 to 10 p.m. every Tuesday, Wednesday and Thursday. Instruction given.

SKATING—Free instruction in ice skating, 6 p.m. every Wednesday, Ice Bowl, 1225 W. Holt, Ontario.

SKI CLUB—Far West Ski Association annual Sno Ball, Nov. 2, Miramar Hotel, Santa Monica.

WOMEN'S ACTIVITIES—Annual Fashion Show, Nov. 10, Royal Tahitian Restaurant at Whispering Lakes Golf Course, Ontario. Tickets \$2.25 include luncheon.

Leagues Report Leading Bowlers

Top bowlers in PRA leagues at GD/Pomona in the past two weeks as reported by Commissioner Tex Munson:

Monday 6:15 p.m. Mixed Handicap League—Mary Ann Siebert, 600 handicap series; Paul Lamkin, 664 handicap series.

Tuesday Men's 820 Scratch League—Bruce Nicholson, 596 scratch series; Bill Merced, 224 scratch game.

Wednesday 6:15 p.m. Mixed Handicap League—Eleanor Bennett and Connie Horn (tied), 532 handicap series; Jim Billips, 569 handicap series.

Thursday 6:15 p.m. Mixed Handicap League—Virginia Harbison, 585 handicap series; Ken Odegard, 609 handicap series.

Thursday 9:00 p.m. Mixed Handicap Foursome League — Wavalea Sheridan, 566 handicap series; Bert Howard, 621 handicap series.

There's Still Time To Put in Entries For Chess Tourney

Winner of the "B" Championship Chess Tournament now in progress at GD/Pomona will become a contender in the proposed "A" class tournament.

Bill Dugan (Dept. 6) has taken an early lead with two wins but players may still enter the tournament by calling Chess Commissioner Lars Enequist, ext. 8157.

The club has recently held two Rapid Transit tournaments. These are so called because each participant is allowed only five minutes for all his moves in a game. The first tournament was won by Enequist with six points. Runner-up was Tony Mastro (Dept. 6) with four points.

The second contest ended in a three-way tie between Mastro, Enequist and Norman Morein. All scored four points.

Visitors are welcome at the weekly meetings beginning at 6 p.m. each Thursday in the PRA Clubhouse.

Lair Leading Bridge Series

Clair Lair is leading the latest ten game bridge series at GD/Pomona with a score of .6075 for the best eight out of ten games played with three different partners.

Ernie Finizio is second with .5711, Jeanne Wood third with .5683, and Bob McGovern fourth with .5670.

The new noontime team-of-four tournament started Oct. 15 with eight teams competing.

Winners at the Oct. 8 meeting were: George Wysup and Ernie Finizio, first; Ray Mix and Dave Rife, second; Andy Bessette and Dick Waddington, third.

Oct. 1 winners were: Dick Waddington and Don Larson, first; Clair Lair and George Wysup, second; Andy Bessette and R. Peterson, third.



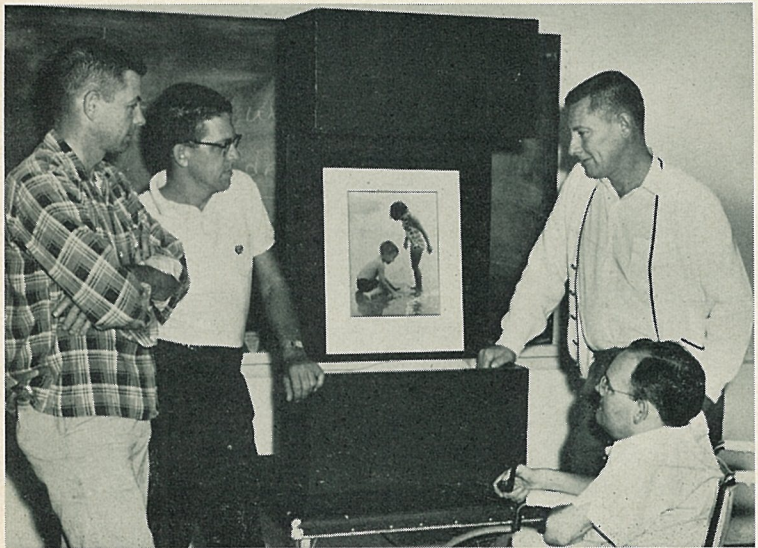
SKI CLUB QUEEN—Kay Winburn (Dept. 6) will represent GD/Pomona Ski Club in contest to select Sno Queen for annual Far West Ski Association Sno Ball, Nov. 2, Miramar Hotel, Santa Monica.

Mrs. Frankenberger Wins \$45 Penny

Three turkeys will be awarded as door prizes at the Nov. 9 meeting of the GD/Pomona Coin Club.

The turkeys will be in lieu of the usual coin door prizes, explained Commissioner Ralph Bayer.

The 1914 "D" penny given as a door prize at the Oct. 12 meeting was won by Mrs. C. C. Frankenberger, wife of the club's immediate past president. The penny is valued in excess of \$45, Bayer said. President Sam Farkas was unable to attend the meeting due to the serious illness of his daughter so the club voted to send a small gift to her in the hospital.



SUMMER ROMANCE—Camera Club members review first place winning photo, "Summer Romance," from third Quarterly Print Competition. Standing, from left: D. G. Machen, honorable mention; S. R. Thorogood, third place; R. W. Thompson, first and second. Seated: P. H. Jackson, honorable mention.



WINNING FOURSOME—Best scores in recent Women's Plant Golf Championship tournament were turned in by this smiling foursome. Left to right: Helen Vaughn, low gross runner-up; Jane Evans, low gross winner; Isabel Medlick, low net winner; Lillian Reeve, low net runner-up.

Terrier, Tartar Ships Will Total 35 When Albany Joins Fleet

USS Albany (CG-10), first of a new guided missile cruiser class, will join the U. S. Fleet following recommissioning ceremonies scheduled at Boston Naval Shipyard Nov. 3. General Dynamics/Pomona-produced Tartar missiles provide secondary armament for the Talos-Tartar ship.

Two other Albany class ships, USS Chicago (CG-11) and USS Columbus (CG-12) are being converted to guided missile cruisers—the Chicago at San Francisco Naval Shipyard and the Columbus at Puget Sound Naval Shipyard.

General Dynamics Corporation will be represented at the Nov. 3 ceremonies in Boston by G. E. Sylvester, vice president—operations, who will present a set of quarterdeck markers—scale models of Tartar missiles—to the ship on behalf of General Dynamics/Pomona.

Albany, built as a heavy cruiser (CA-123) by Bethlehem Steel Co., Quincy, Mass., was launched June 30, 1945. Commissioned June 15, 1946, Albany served with the Second and Sixth Fleets until placed out of commission on June 30, 1958. Her hull classification and number were changed to CG-10 effective Nov. 1, 1958.

The guided missile cruiser has an overall length of 674 feet, 11 inches, extreme beam of 70 feet 10 inches and displaces 13,700 tons.

Albany (CG-10) is the fourth ship to have been named for the capital city of New York. The first Albany, a 1,064-ton sloop-of-war, was launched June 27, 1846. She was armed with four 8-inch smoothbore rifles and eighteen 32-pounder rifles. The ship was lost at sea in 1854.

The second Albany, a screw sloop-of-war, was commissioned March 14, 1868. The ship was armed with eight 9-inch guns, one 60-pounder rifle, four 24-pounder bronze howitzers and one 12-pounder bronze howitzer. This ship was placed out of commission on Jan. 7, 1870.

A protected cruiser, the third Albany, was built by Armstrong, Mitchell and Co., Newcastle on Tyne, England. Originally the Brazilian cruiser Almirante Abreu, the ship was purchased while on the ways March 16, 1898. Renamed Albany, the ship was 254 feet in length, with a beam of 43 feet and displacement of 2,769 tons. Armament consisted of six 6-inch guns, four 4.7-inch guns, ten 6-pounders, eight 1-pounders, two .38-caliber guns and three 18-inch surface torpedo tubes. Following service in World War I, the ship was decommissioned.

When Albany joins the fleet,

Electronics Course Offered by U. of Cal.

A seminar course, "Marketing Management in the Electronics Industry," will be offered throughout the next month by University of California Extension for San Diegans employed in electronics.

Four day-long seminars will be held at the Kona Kai Club, Shelter Island. First will be this Saturday (Oct. 27).

General Dynamics people interested may obtain information from University Extension office, 1221 Fourth Ave., SD, BE-2-7321.

Data on Flow Study Presented in Paper

Harvey Dershin of GD/Pomona physics laboratory presented a paper at the Air Force Office of Scientific Research Separated Flow Conference held Oct. 9-10, at Princeton University, Princeton, N. J.

"Separated Flow Studies at General Dynamics/Pomona" was the title of a paper based on Dershin's recent research.

the Navy will have a total of 35 ships armed with Advanced Terrier and Tartar missiles built by General Dynamics/Pomona. This includes two aircraft carriers, three heavy cruisers, one nuclear-powered cruiser, three light cruisers, one nuclear-powered "double-ender" destroyer leader (frigate), 10 single-launcher destroyer leaders, one "double-ender" frigate and 14 destroyers.

VALUE ENGINEERS ELECT B. W. KAHLA

A General Dynamics/Convair man will head the San Diego Chapter of Society of American Value Engineers (SAVE) following election of first permanent officers this month.

B. W. Kahla, chief of systems and procedures at GD/Convair and former deputy value control coordinator at GD/Fort Worth, is newly-elected president.

Other officers are R. D. Allen of Ryan Aeronautical Co., first vice president; C. W. Christie of GD/Electronics, second vice president; D. D. Shirk of Solar Aircraft, secretary; and H. L. Braasch of Ryan, treasurer.

Next SAVE meeting will be Nov. 6 at Bahia Hotel on Mission Bay for installation ceremonies. Speaker will be M. E. Davis, value analysis coordinator of Spaulding Fibre Co.

Symposium Hears Two From Pomona

A. C. McMaster and E. D. Heller of General Dynamics/Pomona spoke Saturday (Oct. 20) at a Product Assurance Symposium conducted by American Society for Quality Control, San Fernando Valley Section, at Glendale, Calif.

Heller, GD/Pomona value control coordinator, spoke on "Product Assurance Through Value Assurance." He was speaker for opening session on value engineering.

McMaster, GD/Pomona director of quality control, spoke during quality engineering portion of symposium. Subject of his talk was "Assurance Specified and Controlled in Open Competition."

Hustler Refuelers Decorated by AF

Air Force Commendation Medals have been awarded to seven KC-135 combat-crew members from 305th Bomb Wing who helped refuel a B-58 Hustler on its record-breaking Los Angeles to New York flight.

Crews are Maj. M. J. Beacond, and Capt. J. A. Fuchs and E. J. Breax Jr.; and Capt. C. T. Bates, Lt. D. L. Austin and T. J. Stewart Jr., and M/Sgt. W. E. Hicks.

Col. Frank L. O'Brien Jr., 305th commander, presented the medals for "demonstration of outstanding airmanship and professional knowledge."

The B-58 smashed three records during the round-trip flight.



CURRENT REPORTER—John K. Liu of GD/Electronics at Rochester lowers new sensing device into Seneca Lake. It detects ocean currents and has wide applications in oceanography.

GD/E Develops Device To Sense Sea Currents

An underwater electronic device so sensitive that it can measure the velocity of a deep sea current that travels only one mile in 3½ days has been developed by General Dynamics/Electronics at Rochester, N. Y.

Johnson Talks On Delta Wing

R. L. Johnson, director of flight at General Dynamics/Fort Worth, addressed high-ranking officials of the Air Force 84th Fighter Group, Spokane, Wash., late last month, describing development of delta-wing aircraft and speculating on future fighter planes.

Maj. Gen. Arthur C. Agan, Deputy Chief of Staff for Plans, Air Defense Command Headquarters, Colorado Springs, Col., special guest at the Commanders Dining-In gathering, followed the same trend in his talks on operational capabilities of past fighter aircraft and what military requirements of future aircraft might involve.

During the evening Johnson and Troy Vaughan, GD/Convair field service representative at Geiger AFB, presented ten F-106 pilot checkout and Mach 2 pins in a mass ceremony to a new group of 498th Fighter-Interceptor Squadron pilots who recently soloed in the Convair-built jet interceptor.

FATIGUE SPECIALIST ON LECTURE TOUR

Clarence R. Smith, GD/Convair fatigue research specialist, left last week for a three-and-a-half week junket which will take him across the country, and probably, into Mexico speaking before various groups and collecting material for a Navy-commissioned manual.

During his tour he will present his theory of fatigue life prediction to American Airlines overhaul base personnel, Tulsa, Okla., and attend the national convention of the Society for Experimental Stress Analysis at Milwaukee, Wis., this week, Oct. 24-27.

Other stops will be at Wright-Patterson AFB, Dayton, Ohio, and at Philadelphia, Pa., where he will speak before a meeting of the Society.

As the Society's international chairman for local sections, he plans to attend an organizational meeting to form a section of the group at the University of Mexico. In addition, he will visit aircraft overhaul bases in Mexico City and cities in the United States collecting material for the "Fatigue Manual for Aircraft Designers."

Spacecraft Moon Landing Simulated

Miniature "moon dust storms" are being created by General Dynamics/Astronautics scientists in preliminary studies concerning jet blast effects on the lunar surface.

Object of the studies is to determine just what happens as a jet blast from a spacecraft strikes the moon's surface in providing a cushion as it backs down for landing.

Answers are extremely important to astronauts who will make such a landing.

For instance, dust could blow up and obscure his vision; lunar particles could damage the craft; jets might create a deep hole into which the spacecraft would sink, etc.

Initial experiments concern the flow of a jet of gas in a vacuum and what happens when blasts strike a dusty surface. They show where the dust goes, the pattern it makes and what the shock wave looks like.

Simulating the moon's atmosphere was accomplished by creating a vacuum in a bell jar. A tiny glass replica of a rocket engine nozzle is mounted inside. An attached tube sends air through the nozzle to simulate the jet blast.

Present studies are not concerned with the presence of heat in the jet or the problem of heat transfer.

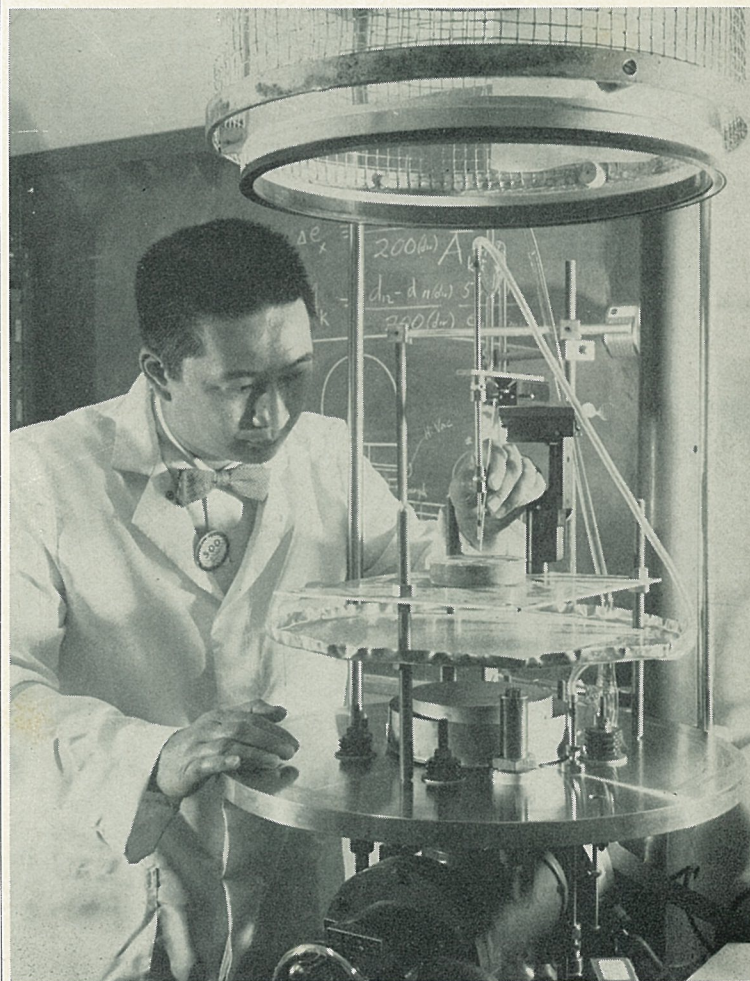
Since the composition of the moon's surface is unknown, Astro scientists are conducting experiments with a variety of different size dust particles and densities. Substances used include cork dust, powdered aluminum, talcum powder and sand. The thickness of the dust layers is varied, too.

Test substances are contained in a glass dish placed below the simulated nozzle. Test time is usually about one second. Run time is brief because the air flow causes the vacuum to be lost.

High speed motion picture cameras capture details of the test. Shadowgraphs are also made to study shock waves as the air hits the test surface.

Variations include various sized nozzles and different heights for the nozzle above the test surface.

Astronautics' fluid physics section of the space science laboratories is conducting the tests.



MOON DUST—Norman Fong, research assistant, works at GD/Astro on experiments to determine what happens when jet blast hits moon's surface. Vacuum is created in jar lowered over area. Tiny nozzle aims air blast at substances like powdered aluminum.